ARGUS
Developer™

Step-by-Step Guide

Release Version 4.05

ARGUS Software: ARGUS Developer Step-by-Step Guide

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ARGUS Developer was formerly known as CircleDeveloper.

ARGUS Development Budget was formerly known as CircleBudget.

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CHAPTER 1

Introduction

Welcome to ARGUS Developer

We are delighted that you have chosen ARGUS Developer.

This walkthrough guide will make life easier for you as it sets out to provide essential and important information on using the program and handling single or multi-phase projects, sensitivity analysis and Structured Financing in the most efficient and comprehensive manner.

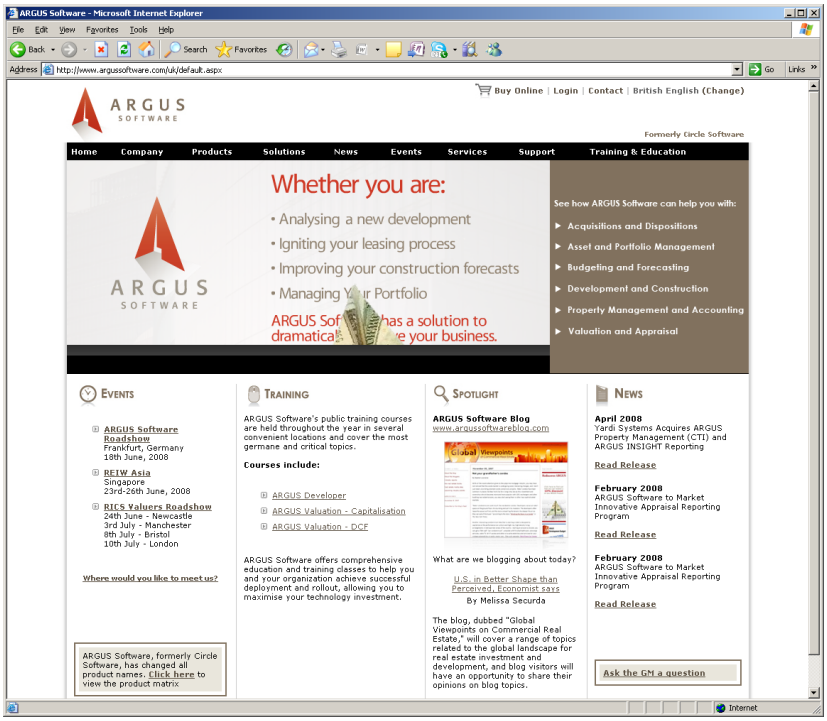
A program the size and complexity of ARGUS Developer cannot be learnt instantly, and indeed it is not designed as a “quick fix” product. You will need time and patience to go through all the features of the system and it is most likely that you will not need to know everything in the program to carry out your work effectively. However, you can gain a good working knowledge if you walk through the simple example provided here and practice the steps when you have the time.

A good understanding of the program will enable you to find the answers and solutions to your particular tasks quickly.

The User Guide supplied with the software offers a structured explanation and description of the contents of the program and the combination of both manuals should provide sufficient detail and information to enable you to work alone.

However, occasionally there will be special cases and circumstances where further help is required. If this situation should arise, you have the ARGUS Support team to answer any queries and it is worth remembering that answers to common questions can be found on the ARGUS website:

http://www.argussoftware.com



ARGUS Software website

About the walkthrough

There are several ways of starting a session in ARGUS Developer, and the procedure presented here is just one typical example of moving through the screens and functions.

In time, users generally find the most efficient way they want to work in ARGUS Developer, and this depends on the type of work being undertaken.

We are going to take a direct route to get up and running as soon as possible - therefore, you will be taken through procedures and commands that will be unfamiliar and probably not immediately understood.

There is a temptation to get diverted and investigate things you come across on the screens.

This is fine, but will interrupt your progress and so prolong the learning timescale.

There is a lot to get through, and it is understood you may only wish to look at subjects that are relevant to your work. In this case, the chapters are set out in a way that enables concentration on specific topics although a fuller understanding of the basic steps may be necessary to complete the picture.

We will be starting the walkthrough on the Project tab where we set up assumptions and timescale/phasing. This will lead onto the Definition tab where we enter the buildings and associated fees, and so on. The Cash Flow tab follows this and we will look at the data distribution function.

The Summary chapter will examine the various ways in which ARGUS Developer can export the appraisal reports.

The Sensitivity lesson shows how to use the sensitivity analysis function for “what if” scenarios.

The final chapter will show you how to save your file or email a file from within ARGUS Developer.

CHAPTER 2

Basic Preparation

Before you begin constructing the sample appraisal, there are some things you must do in order to prepare. This chapter walks you through the first things you must do before you start the example project.

First, you must familiarise yourself with ARGUS Developer's user interface, so you can understand its structure.

Starting ARGUS Developer

Start ARGUS Developer by double-clicking its shortcut icon on the desktop.

The User Interface

When ARGUS Developer has started, have a look at the following interface features so that you know where they are (please refer to the screenshots on the next page):

Title bar

The title bar appears at the very top of the window and shows the name of the current file.

Toolbar

You can use the buttons on the toolbar at the top of the screen (beneath the title bar) to access commonly used commands.

Phase Group selector

In multi-phased projects, you can selectively group together any of the phases in any combination for analysis purposes. The phase group selector drop-down box allows you to choose any of the phase groups. When you choose a phase group, the program reformats the phase tab to show only the phases in the current group. You can find the selector on the bottom left-hand corner of the screen.

For the purposes of this simple example, we will not demonstrate the use of this control in this guide. To find out how to use this control, please refer to the ARGUS Developer user manual (see the **ARGUS DeveloperUserManual.pdf** file or press the **F1** key to view the help).

Phase tabs

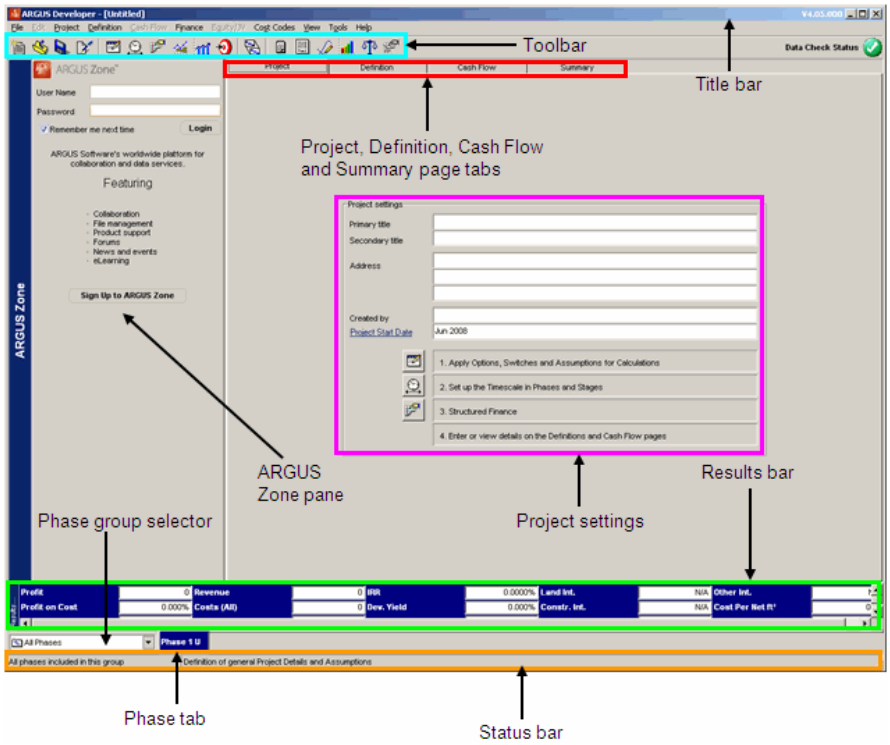
Phase tabs are used to navigate between individual phases in a project. Phase tabs are created when you create phases. They can be named or renamed, according to your specific requirements.

Status bar

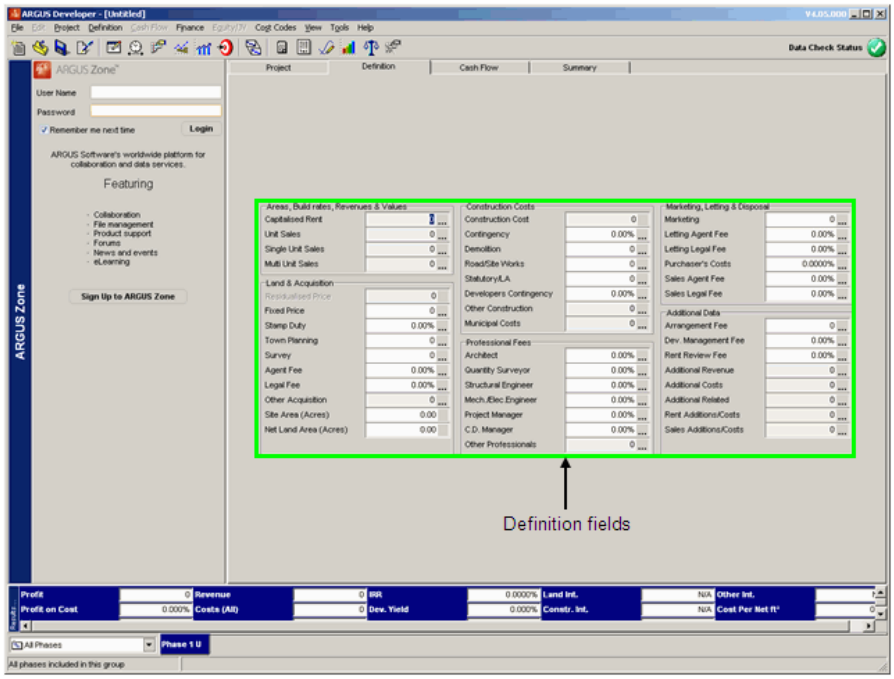
The field you are currently working on determines what information is shown in the status bar, at the bottom of the screen. The status bar displays a brief description of the currently selected field in the Definition tab.

Page tabs

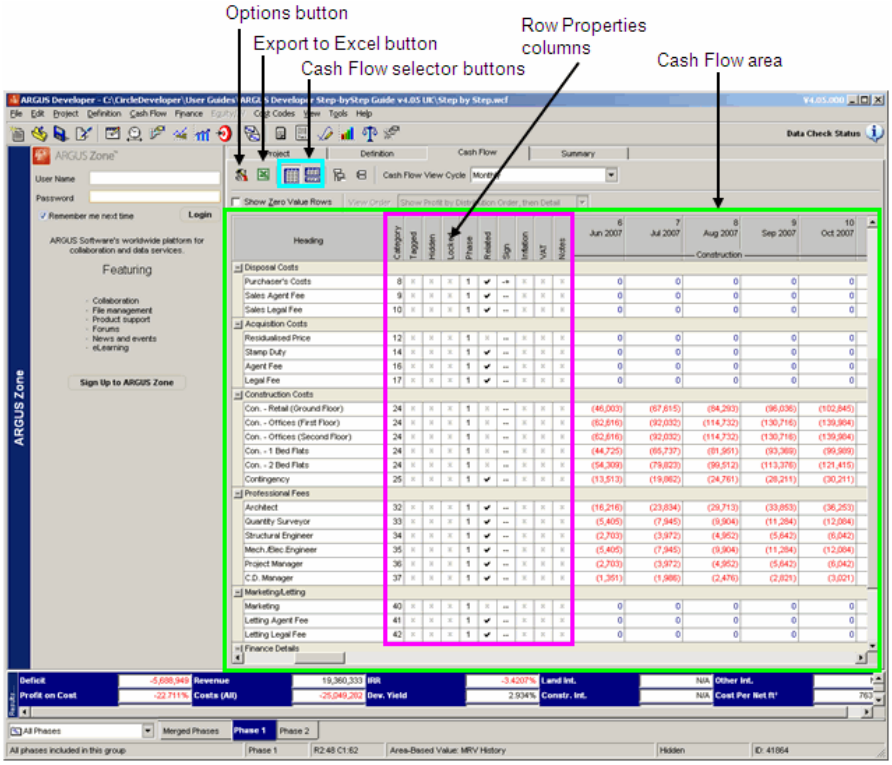
To familiarise yourself with the main pages in the user interface, click on the Project, Definition, Cash Flow and Summary tabs. These pages contain the major areas where you can view data and perform various data input tasks.



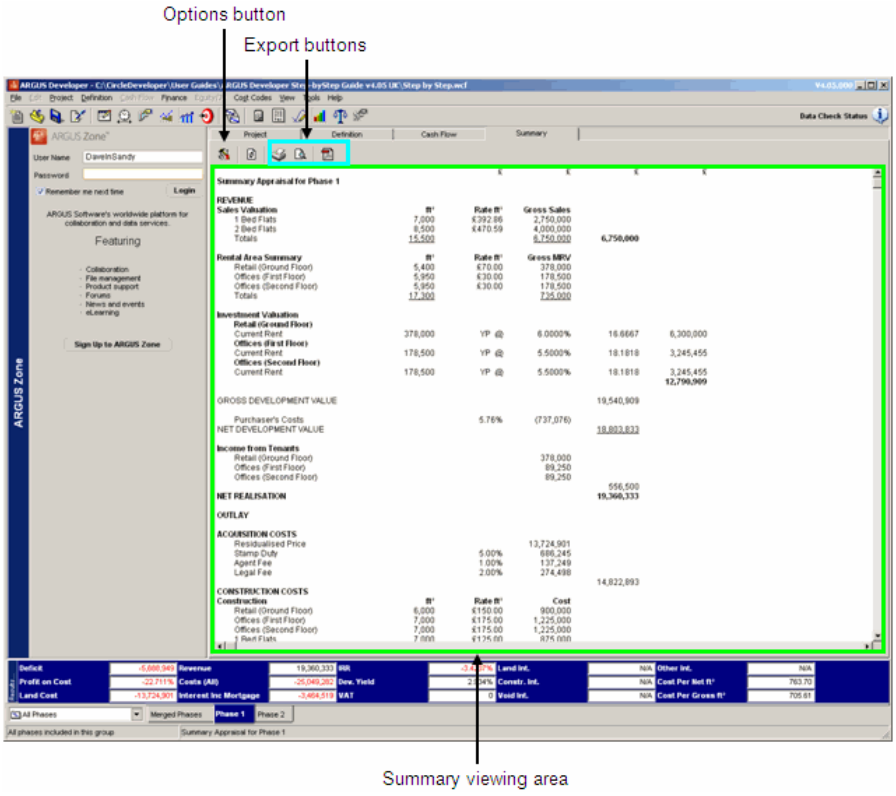
The **Project** tab (as shown above) is the default tab, displayed when you start up ARGUS Developer



The **Definition** tab (as shown above) contains the main data input fields



The **Cash Flow** tab (as shown above) allows you to view and interact with cash flow data



The **Summary** tab (as shown above) allows you to view the Summary report

For more information about the user interface, please refer to the ARGUS Developer user manual (see the **ARGUS DeveloperUserManual.pdf** file or press the **F1** key to view the help).

Proceed to the next section, “Customising the Results Bar”.

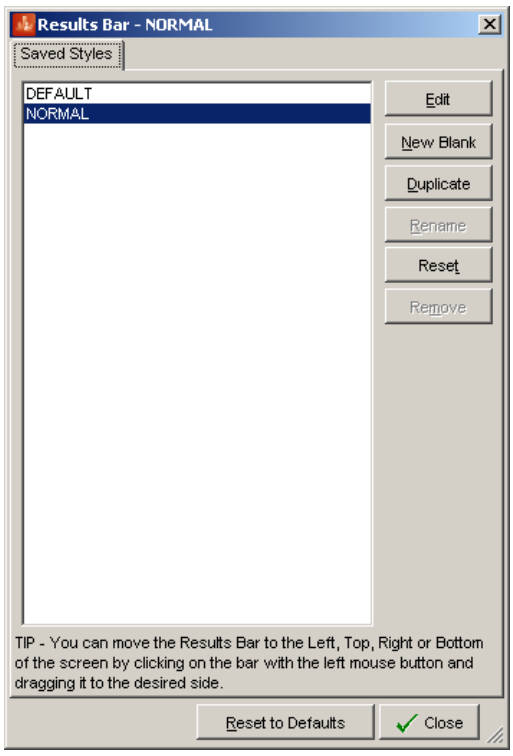
Customising the Results Bar

As you enter data, you will be able to view the results in the Results Bar.

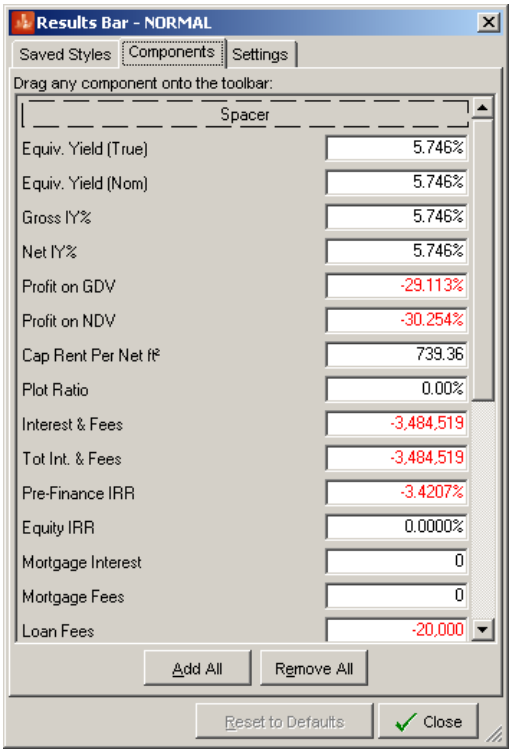
So, before you begin, it is important that you have the Results Bar tailored to your specific requirements.

For the purposes of this example, we will organise the Results Bar layout to display only a few basic fields. We’ll do this by taking the default style (called “NORMAL”), removing the fields we don’t want, then saving the Results Bar style under a different name.

1. Go to the **Tools** menu, and select the **Configure Results Bar** option. This will open the Results Bar editor:



2. Click on the **Edit** button. When the display changes, click on the **Components** tab:



3. In the Results Bar, hold the mouse cursor over the “Land Int.” field - note that it has changed to a hand.
   Click and hold down the mouse button to drag the field.

4. Drag the field over to the list of items in the **Components** tab, and drop it in place. This will remove the Land Int. field from the Results Bar.

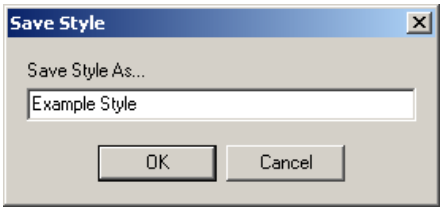
5. Repeat this procedure for the “Constr. Int.”, “Void Int.” and “Other Int.” fields.

Now you’ve reorganised the Results Bar, you can save the new style under a new name.

6. Click on the **Saved Styles** tab.

7. When the display changes, click on the **Save As...** button.

8. In the Save Style dialog, type in the name “Example Style” and click on **OK**:



9. The new style should appear in the list. Click on the new style in the list to make it the current style for the Results Bar.

10. Click on the **Close** button to close down the Results Bar editor.

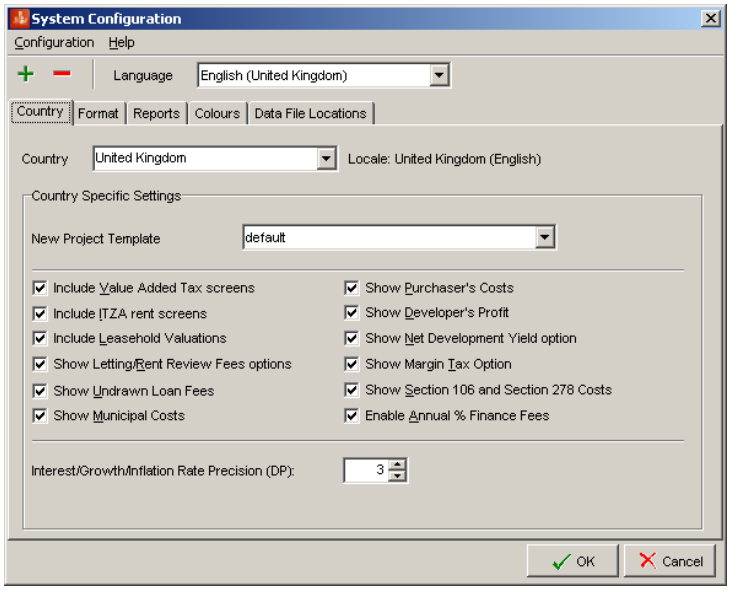
You have now successfully created a new Results Bar style! Proceed to the next section, “Setting country and currency”.

After working through this example project, if you wish to know more about all the different features of the Results Bar, you can refer to the ARGUS Developer user manual (see the **ARGUSDeveloperUserManual.pdf** file or press the **F1** key to view the help).

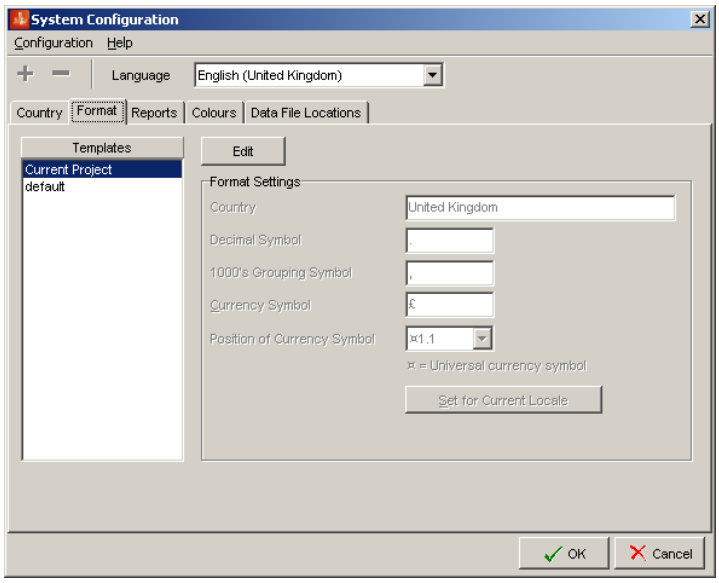
Setting country and currency

Before you can begin inputting data, you have to perform some basic localisation tasks. This involves setting the country, the language that will be used, and the currency symbol that will be used throughout the project.

1. Go to the **File** menu and select the **Administration** option. In the sub-menu, select **System Configuration...**
2. This opens the System Configuration dialog box:



3. Select all the check boxes in the bottom part of the dialog to turn on all the features.
4. In the **Language** drop-down, select the language you prefer to work with. For the purposes of this example, we are using “English (United Kingdom)”. Your version may be different, so you can select the appropriate item from the list.
5. In the **Country** drop-down, the setting should be already selected. For the purposes of this example, we are using “United Kingdom” as the setting. Your version may be different, so you can select the appropriate item from the list.
6. Click on the **Format** tab.



We're now going to set the currency that will be used throughout this project:

7. Click on the **Edit** button on the **Format** page.
8. In the **Currency Symbol** field, select whatever is in the field and type in £ (a Pound symbol).

Note: You can type in the currency symbol you wish to work with.

9. Click on the **Save** button to save your settings.
10. Click on **OK** to exit from the System Configuration window.

You have now successfully set the currency symbol. Proceed to the next chapter, "The Project Tab".

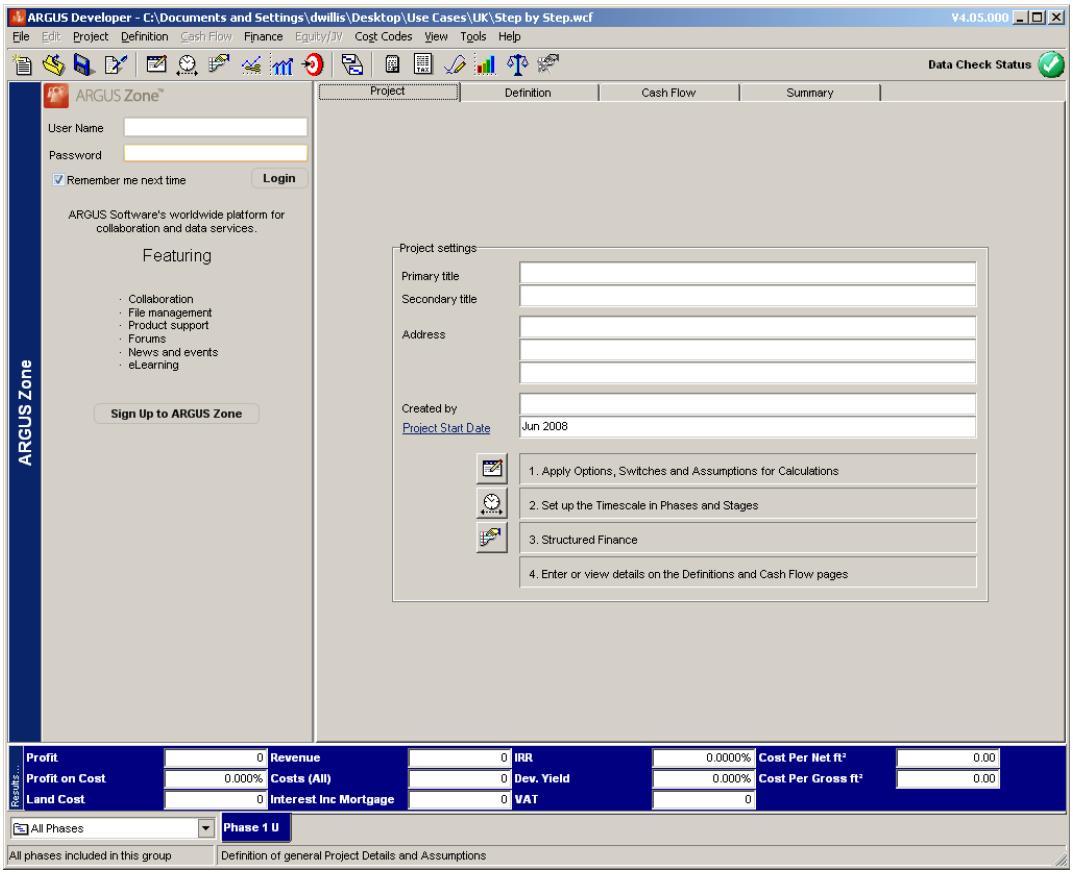
After working through this example project, if you wish to know more about all the different features of the system configuration window, you can refer to the ARGUS Developer user manual (see the **ARGUSDeveloperUserManual.pdf** file or press the **F1** key to view the help).

Note: If you wish to save your work at this point, skip ahead to "Saving files" on page 71.

CHAPTER 3

The Project Tab

This chapter walks you through the tasks you must perform with the Project tab. If you have just started ARGUS Developer, the Project page should be displayed by default:

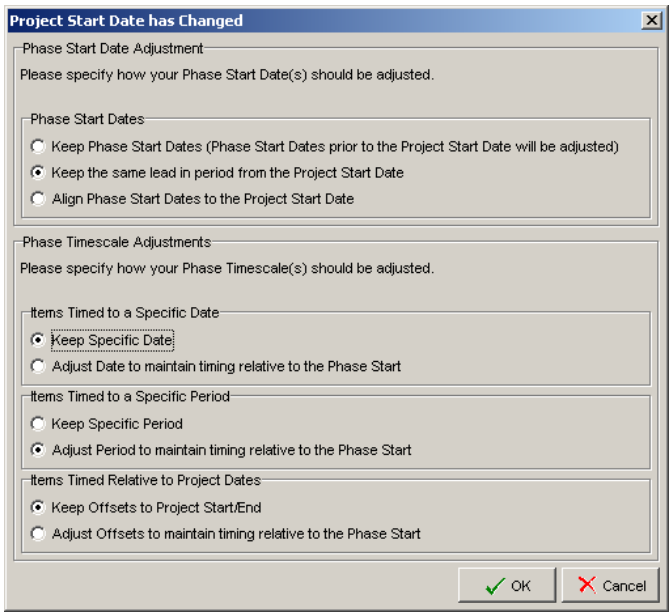


1. In the **Primary title** field, type in “Step By Step Example”. This will be our working title for the project.
2. In the **Address** fields, type in your company address (this step is optional).
3. In the **Created by** field, type in your name or the name of your company (this step is optional).

Note that the Project Start Date has already been filled in automatically with the current month and year.

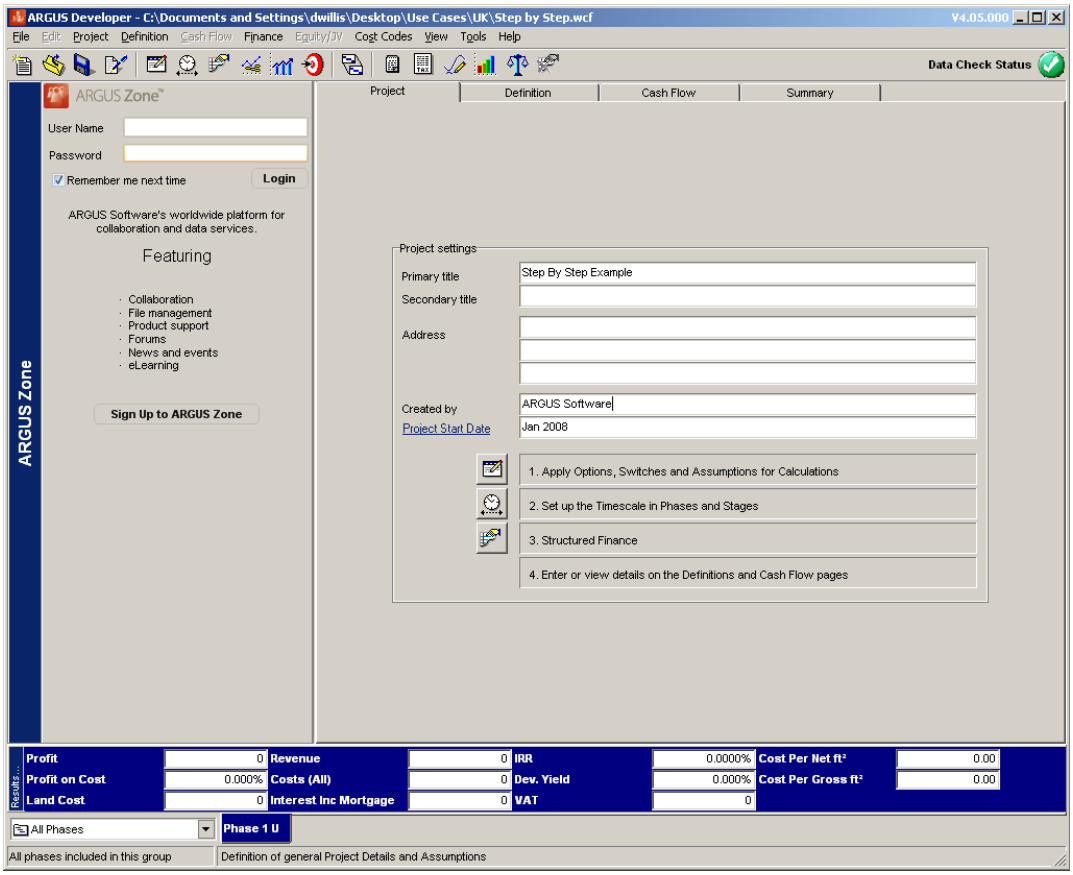
4. If the Project Start Date does not say “Jan 2008”, you can change it by clicking on the Project Start Date link (the blue underlined text). This opens the Date Picker:

5. Select January 2008 from the Date Picker.
6. If you are changing the date, the following dialog will appear:



7. Click on **OK** to use the date you have picked.

Your screen should now look something like the following:



You have now successfully entered the basic details for the project. To make further project settings, proceed to the next chapter, “Set-up and assumptions ”.

Note: If you wish to save your work at this point, skip ahead to “Saving files” on page 71.

CHAPTER 4

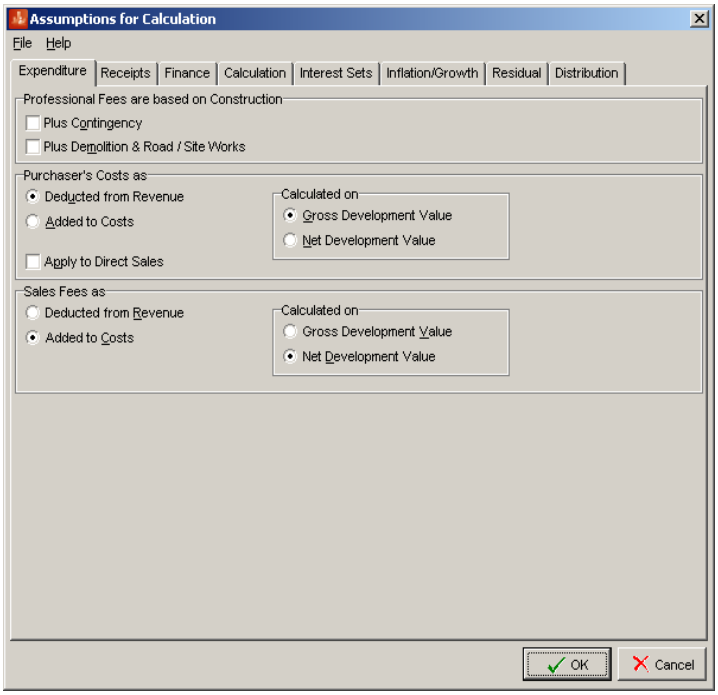
Set-up and assumptions

Assumptions/Defaults

The next stage is for you to set up the basic assumptions and defaults that will be used to determine how calculations will be performed in this project.

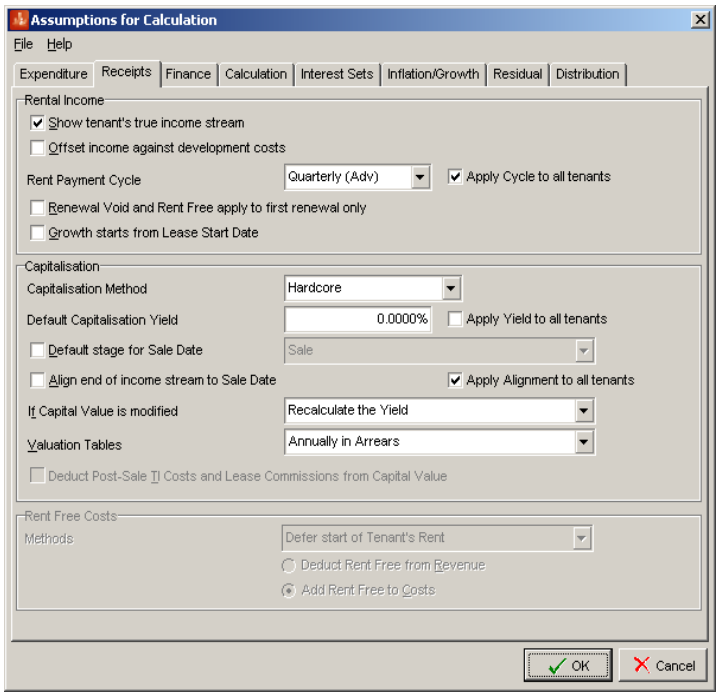
1. Click on the **Assumptions for Calculations** button, which you can find on both the main toolbar and also in the middle of the Project page:

2. This opens the Assumptions for Calculation window:



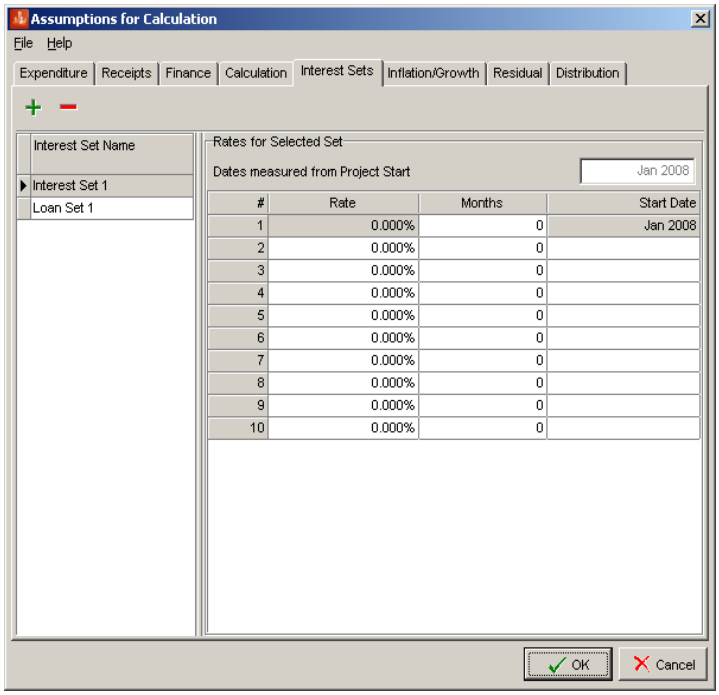
Here, we will focus on just the basic settings that will be required for calculations in this example project. Hence, for the purposes of this quick walk-through, we will not be looking at all of the features in this window. The tabs and controls that we do not cover here will be left at their default settings.

3. Click on the **Receipts** tab to display the controls on the Receipts page:



In the **Capitalisation** section, make sure that the **Apply Yield to all tenants** check box is unchecked.

4. Click on the **Interest Sets** tab to display the controls on the Interest Sets page:

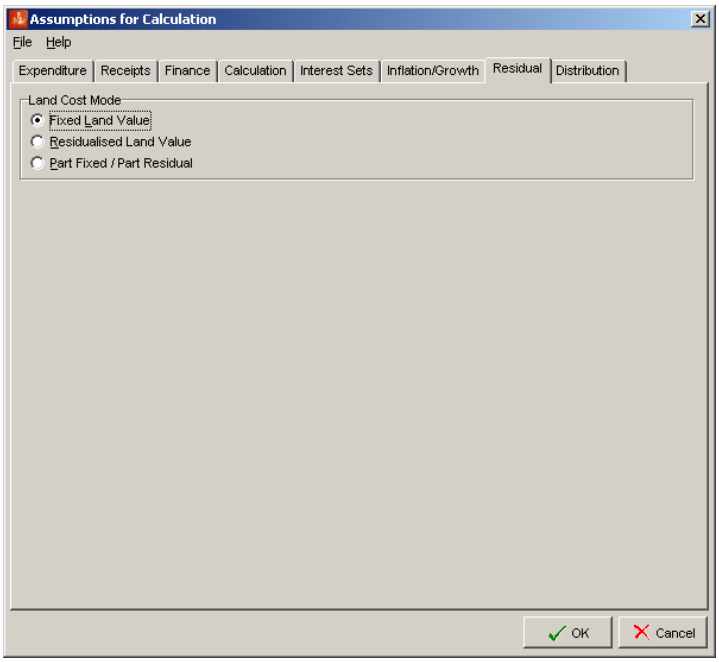


You may see some items already listed here.

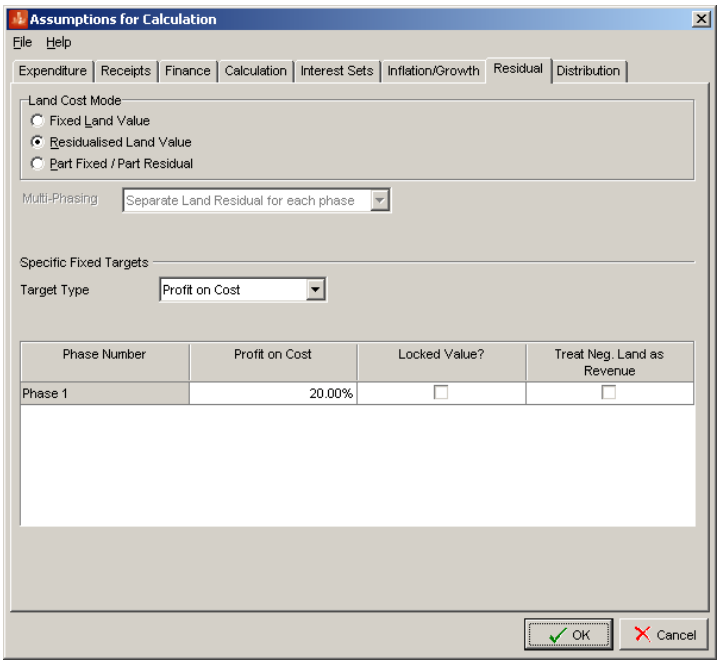
5. In the **Interest Set Name** list, select the first item, and change the text to say “Interest Set 1”. Type in “7.00%” in the first cell in the **Rate** column.

6. In the **Interest Set Name** list, select the next item, and change the text to say “Preferred Return”. Type in “8.00%” in the first cell in the **Rate** column.

7. Click on the **Residual** tab to display the controls on the Residual page:

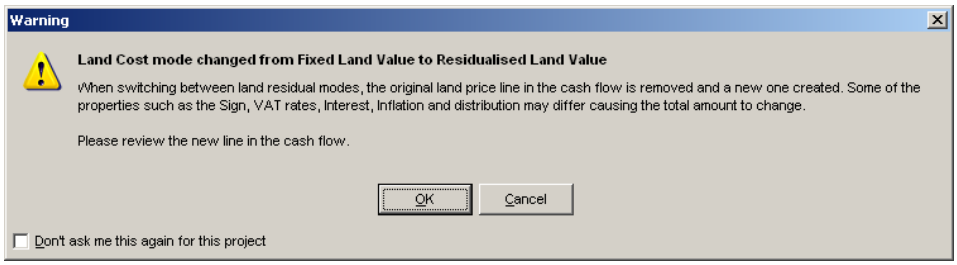


8. Click on the **Residualised Land Value** option to display more controls.
9. In the **Target Type** drop-down, select the "Profit on Cost" option.



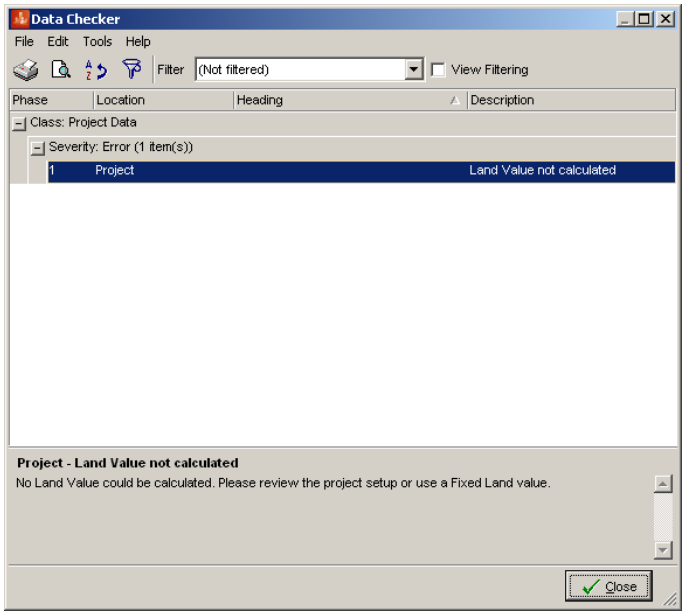
10. In the **Profit on Cost** column, enter "20.00%" as the value.
11. Click on the **OK** button to accept your settings.

12. A message like the following may appear, warning you that you are changing the residual mode:



13. Click **OK** to proceed.

14. If the Data Checker appears (see below), click on the **Close** button to close it down.



You have now set the basic assumptions that will be used when ARGUS Developer performs calculations.

Please proceed to the next chapter, “Timescale and Phasing” on page 19, where you will define the timing of the stages within the first phase.

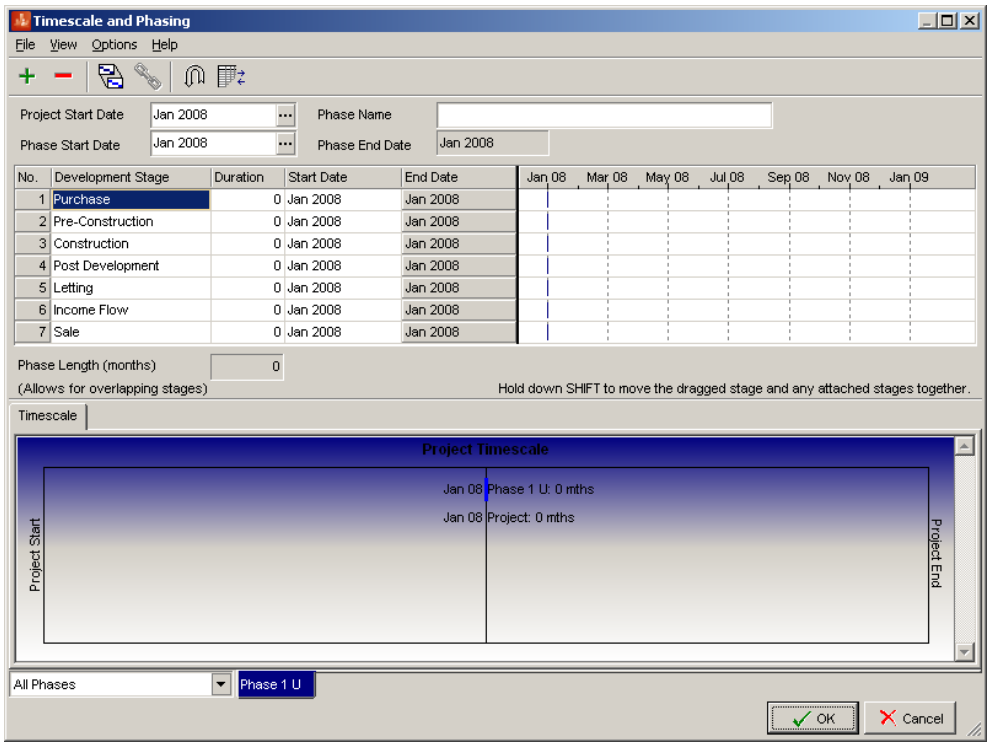
Note: If you wish to save your work at this point, skip ahead to “Saving files” on page 71.

CHAPTER 5

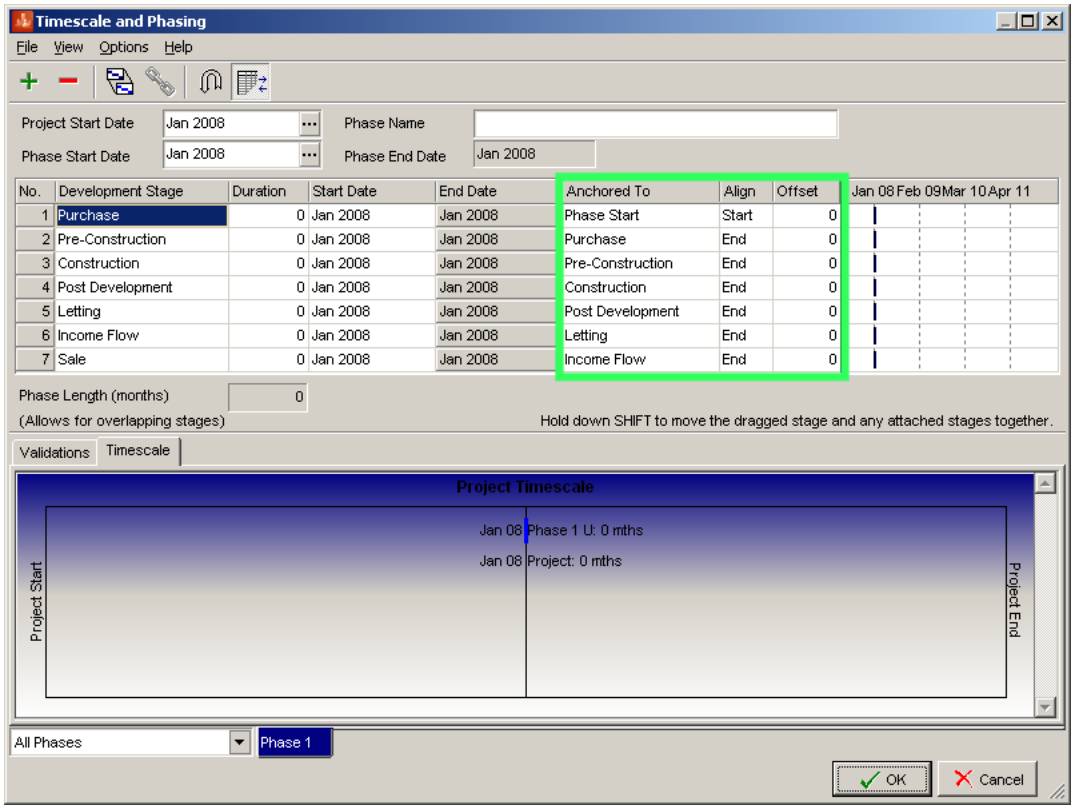
Timescale and Phasing

1. Click on the **Timescale and Phasing** button, which you can find on both the main toolbar and also in the middle of the Project page:

This will display the Timescale and Phasing window:



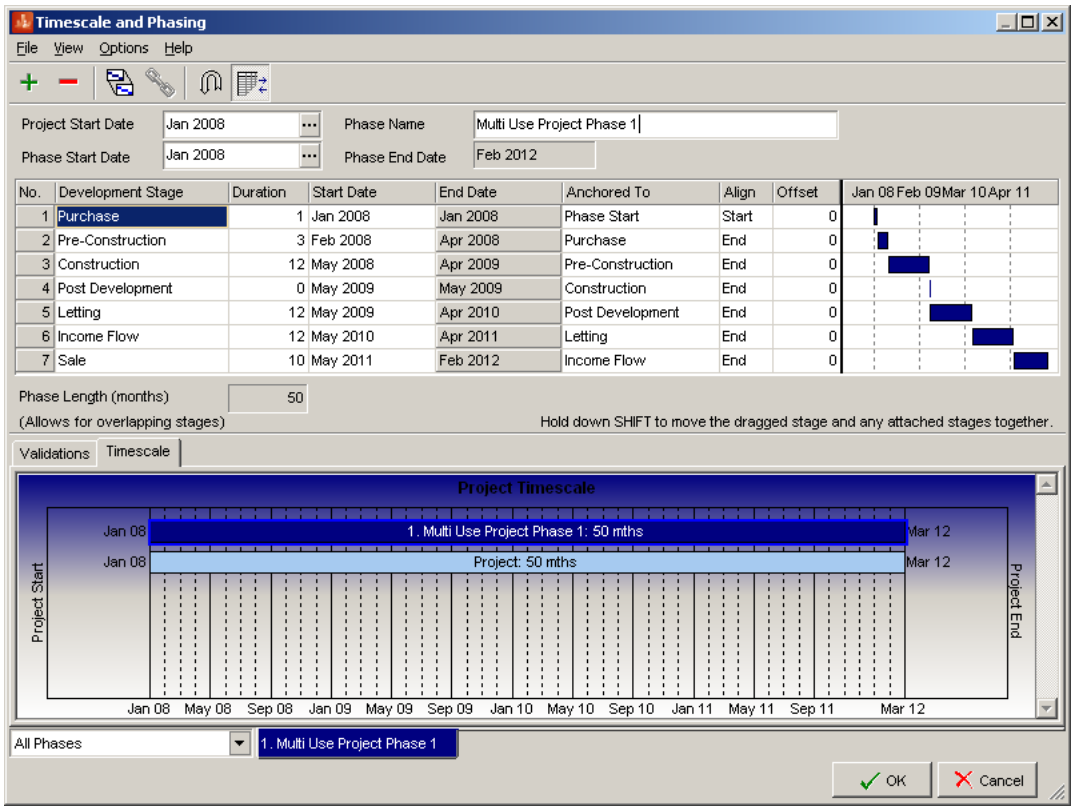
2. Click on the **Extra Detail Columns** button to show additional columns (shown outlined in green in the following picture):



These extra columns show the relationships between the stages.

3. Against “Purchase”, in the **Duration** column, type in “1”.
4. Against “Pre-Construction”, in the **Duration** column, type in “3”.
5. Against “Construction”, in the **Duration** column, type in “12”.
6. Against “Letting” (or “Leasing”), in the **Duration** column, type in “12”.
7. Against “Income Flow”, in the **Duration** column, type in “12”.
8. Against “Sale”, in the **Duration** column, type in “10”.
9. In the **Phase Name** field at the top of the window, type in “Multi Use Project Phase 1” to give the phase a name.

Your Timescale and Phasing window should look like the following picture:



10. Click on the **OK** button to accept your settings.

Please proceed to the next chapter, “The Definition Tab” on page 23.

Note: If you wish to save your work at this point, skip ahead to “Saving files” on page 71.

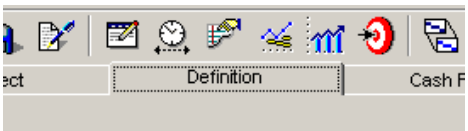
CHAPTER 6

The Definition Tab

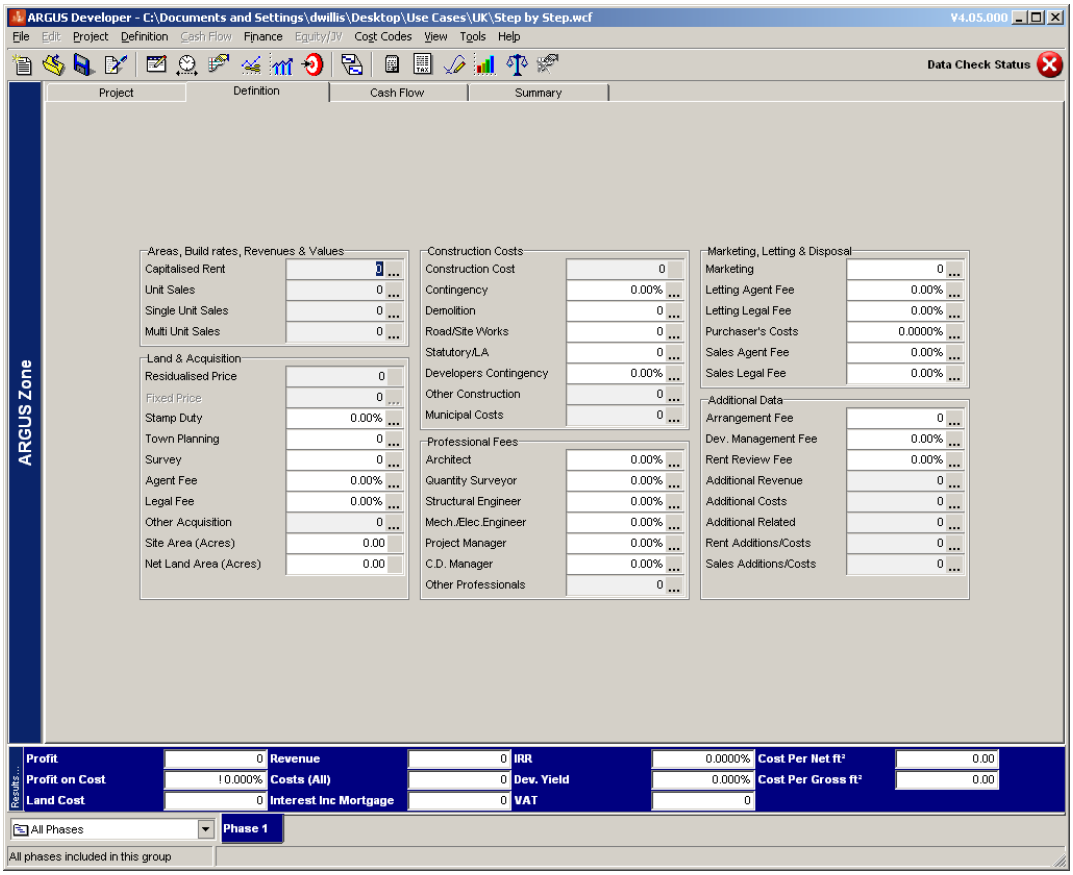
This chapter walks you through the tasks you must perform with the Definition page. This page contains all the cost and revenue inputs, concentrated in one place.

In this example, the development we are modelling comprises a mixed use scheme of ground floor retail with first and second floor offices, plus some 1 and 2 bed flats.

To open the Definition page, click on the Definition tab:



The Definition page is where you will enter most of the data that will be used in calculations:



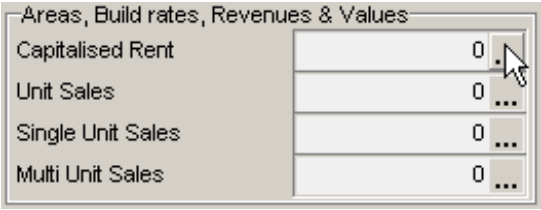
On the Definition page, there are many entry fields. In this chapter, we will walk you through the completion of the most important of these. For the purposes of this walkthrough, we will not be covering every option in this form.

Most of the entry fields have a **Detail View** button ... next to them. To enter details, you can either click on this button or double-click on the field. Some fields are greyed, so the only way you can enter details is by using the button.

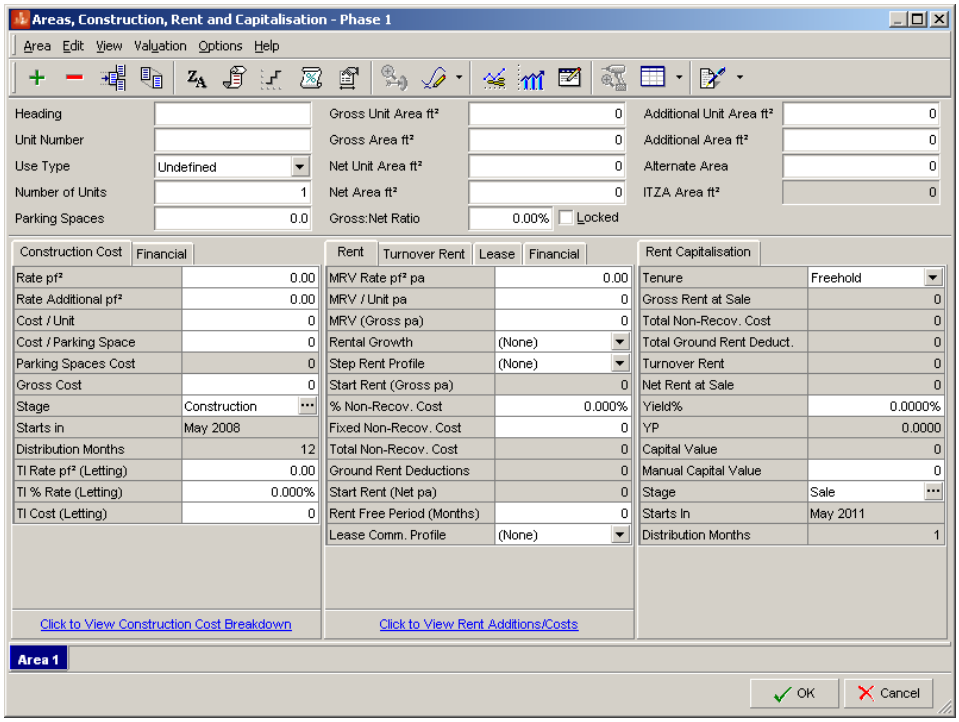
First, we will input details of the buildings that will be let on completion, then add as an investment. In this example, the buildings will be the retail and office units.

Capitalised Rent

Click on the **Detail View** button next to the **Capitalised Rent** field:



This will open the Traditional Construction and Rent window:



If you don't see a window that looks like this, click on the **Line Detail View** button:

Defining the first area (a retail unit)

1. In the **Heading** field, type in "Retail (Ground Floor)". You will notice that the tab at the bottom of the window will change from "Area 1" to say "Retail (Ground Floor)".
2. In the **Unit Number** field, type in "1".
3. In the **Use Type** drop-down, select the "Retail Shop" option.
4. In the **Number of Units** field, type in "1".
5. In the **Gross:Net Ratio** field, select the value in the field and type in "90".
6. Click on the **Locked** check box to lock the Gross: Net Ratio in place.

7. In the **Gross Unit Area** field, type in “6000”. The **Gross Area**, **Net Unit Area** and **Net Area** fields will be automatically completed, so you don’t need to enter an amount. This amount will be calculated using the percentage ratio specified in the **Gross:Net Ratio** field.
8. Click on the **Construction Cost** tab:

Construction Cost | Financial

Rate pf²	0.00
Rate Additional pf²	0.00
Cost / Unit	0
Cost / Parking Space	0
Parking Spaces Cost	0
Gross Cost	0
Stage	Construction
Starts in	May 2008
Distribution Months	12
TI Rate pf² (Letting)	0.00
TI % Rate (Letting)	0.000%
TI Cost (Letting)	0

Click to View Construction Cost Breakdown

9. In the **Rate pf^2** (or **Rate pm^2**) field, type in “150” and press the Tab key.
10. Click on the Rent tab:

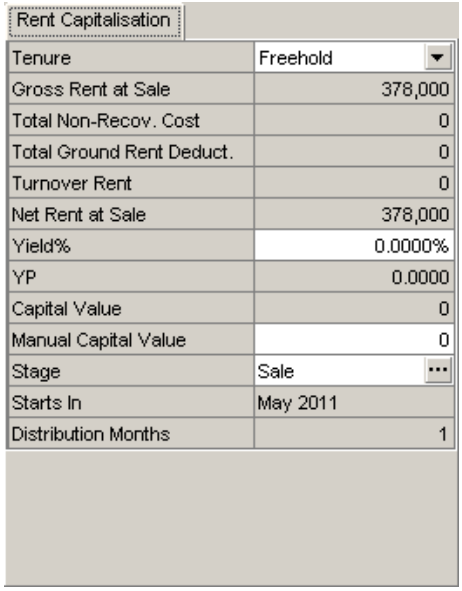
Rent | Turnover Rent | Lease | Financial

MRV Rate pf² pa	0.00
MRV / Unit pa	0
MRV (Gross pa)	0
Rental Growth	(None)
Step Rent Profile	(None)
Start Rent (Gross pa)	0
% Non-Recov. Cost	0.000%
Fixed Non-Recov. Cost	0
Total Non-Recov. Cost	0
Ground Rent Deductions	0
Start Rent (Net pa)	0
Rent Free Period (Months)	0
Lease Comm. Profile	(None)

Click to View Rent Additions/Costs

11. In the **MRV Rate pf^2 pa** (or **MRV Rate pm^2 pa**) field, type in “70”.
12. In the **Rent Free Period (mths)** field, type in “12”.

13. Now, click on the Rent Capitalisation tab:

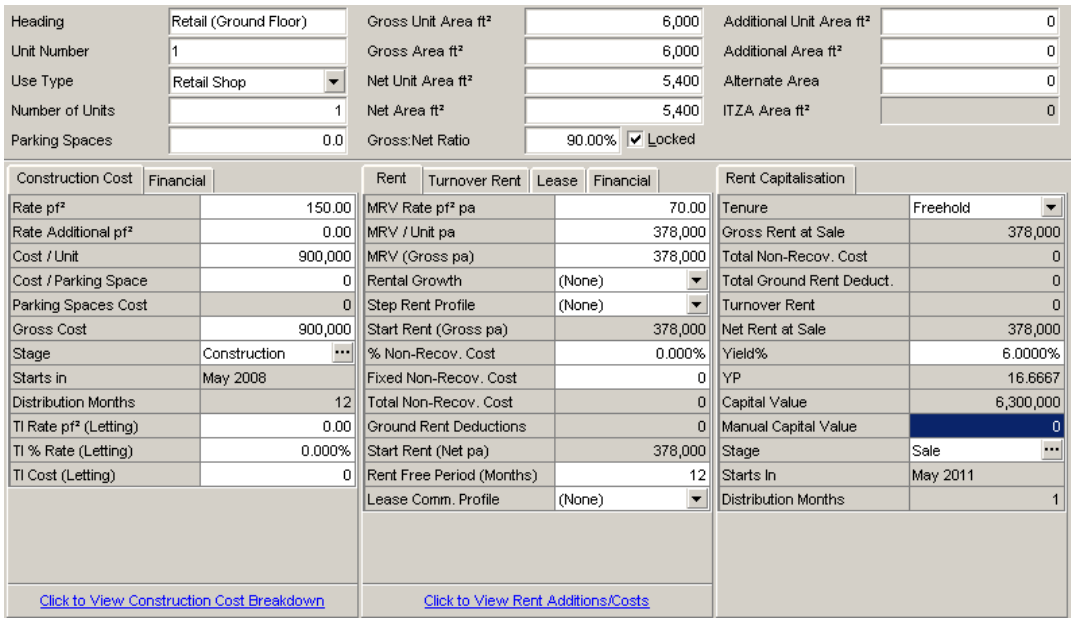


Rent Capitalisation	
Tenure	Freehold
Gross Rent at Sale	378,000
Total Non-Recov. Cost	0
Total Ground Rent Deduct.	0
Turnover Rent	0
Net Rent at Sale	378,000
Yield%	0.0000%
YP	0.0000
Capital Value	0
Manual Capital Value	0
Stage	Sale
Starts In	May 2011
Distribution Months	1

14. In the **Tenure** drop-down, select “Freehold”.

15. In the **Yield%** field, select the value in the field and type in “6”.

Your settings should now look like this:



Heading	Retail (Ground Floor)	Gross Unit Area ft²	6,000	Additional Unit Area ft²	0
Unit Number	1	Gross Area ft²	6,000	Additional Area ft²	0
Use Type	Retail Shop	Net Unit Area ft²	5,400	Alternate Area	0
Number of Units	1	Net Area ft²	5,400	ITZA Area ft²	0
Parking Spaces	0.0	Gross:Net Ratio	90.00%	☑ Locked	

Construction Cost | Financial

Rate pf²	150.00
Rate Additional pf²	0.00
Cost / Unit	900,000
Cost / Parking Space	0
Parking Spaces Cost	0
Gross Cost	900,000
Stage	Construction
Starts in	May 2008
Distribution Months	12
TI Rate pf² (Letting)	0.00
TI % Rate (Letting)	0.000%
TI Cost (Letting)	0

Click to View Construction Cost Breakdown

Rent | Turnover Rent | Lease | Financial

MRV Rate pf² pa	70.00
MRV / Unit pa	378,000
MRV (Gross pa)	378,000
Rental Growth	(None)
Step Rent Profile	(None)
Start Rent (Gross pa)	378,000
% Non-Recov. Cost	0.000%
Fixed Non-Recov. Cost	0
Total Non-Recov. Cost	0
Ground Rent Deductions	0
Start Rent (Net pa)	378,000
Rent Free Period (Months)	12
Lease Comm. Profile	(None)

Click to View Rent Additions/Costs

Rent Capitalisation

Tenure	Freehold
Gross Rent at Sale	378,000
Total Non-Recov. Cost	0
Total Ground Rent Deduct.	0
Turnover Rent	0
Net Rent at Sale	378,000
Yield%	6.0000%
YP	16.6667
Capital Value	6,300,000
Manual Capital Value	0
Stage	Sale
Starts In	May 2011
Distribution Months	1

You have now successfully created the first area, and can now proceed to create others.

Defining the second area (first floor offices)

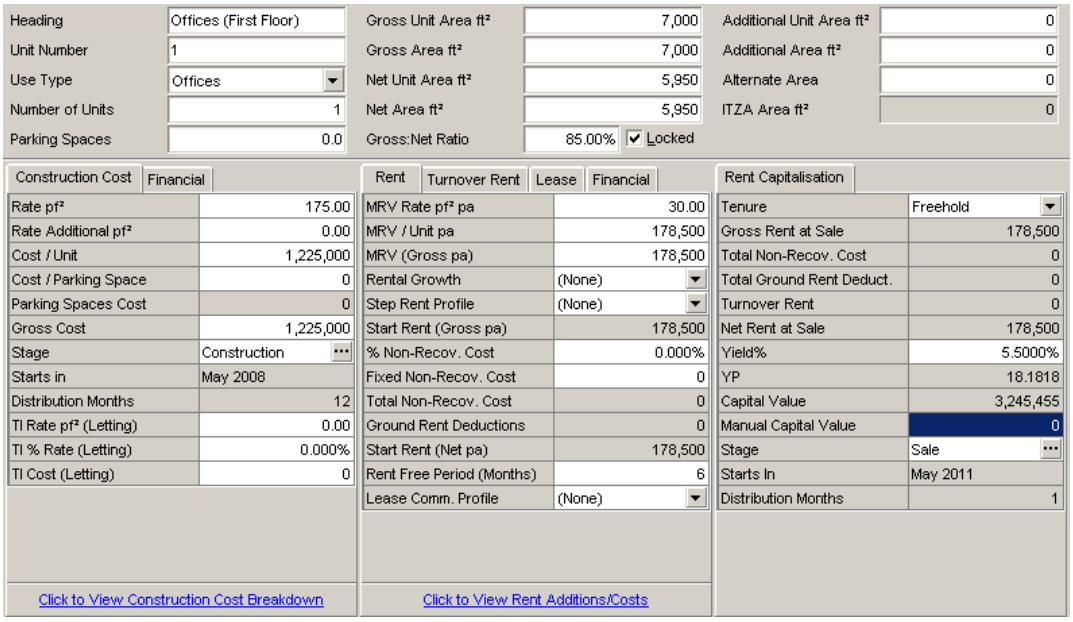
The second area we are going to define is for some offices.

1. To add a new area to the list, click on the **Add Area** button:

2. This will add a new tab, initially titled “Area 2”:

3. In the **Heading** field, type in “Offices (First Floor)”.
4. In the **Use Type** drop-down, select the “Offices” option.
5. In the **Number of Units** field, type in “1”.
6. In the **Gross:Net Ratio** field, select the value in the field and type in “85”.
7. Click on the **Locked** check box to lock the Gross: Net Ratio in place.
8. In the **Gross Unit Area** field, type in “7000”. Press the Tab key.
9. On the **Construction Cost** tab, in the **Rate pf^2** (or **Rate pm^2**) field, type in “175”. Press the Tab key.
10. On the Rent tab, in the **MRV Rate pf^2 pa** (or **MRV Rate pm^2 pa**) field, type in “30”. Press the Tab key.
11. In the **Rent Free Period (mths)** field, type in “6”.
12. On the Rent Capitalisation tab, in the **Tenure** drop-down, select the “Freehold” option.
13. In the **Yield%** field, select the value in the field and type in “5.5”. Press the Tab key.

Your settings should now look like this:



Heading	Offices (First Floor)	Gross Unit Area ft²	7,000	Additional Unit Area ft²	0
Unit Number	1	Gross Area ft²	7,000	Additional Area ft²	0
Use Type	Offices	Net Unit Area ft²	5,950	Alternate Area	0
Number of Units	1	Net Area ft²	5,950	ITZA Area ft²	0
Parking Spaces	0.0	Gross:Net Ratio	85.00% ☑ Locked		

Construction Cost | Financial

Rate pf²	175.00
Rate Additional pf²	0.00
Cost / Unit	1,225,000
Cost / Parking Space	0
Parking Spaces Cost	0
Gross Cost	1,225,000
Stage	Construction
Starts in	May 2008
Distribution Months	12
TI Rate pf² (Letting)	0.00
TI % Rate (Letting)	0.000%
TI Cost (Letting)	0

Click to View Construction Cost Breakdown

Rent | Turnover Rent | Lease | Financial

MRV Rate pf² pa	30.00
MRV / Unit pa	178,500
MRV (Gross pa)	178,500
Rental Growth	(None)
Step Rent Profile	(None)
Start Rent (Gross pa)	178,500
% Non-Recov. Cost	0.000%
Fixed Non-Recov. Cost	0
Total Non-Recov. Cost	0
Ground Rent Deductions	0
Start Rent (Net pa)	178,500
Rent Free Period (Months)	6
Lease Comm. Profile	(None)

Click to View Rent Additions/Costs

Rent Capitalisation

Tenure	Freehold
Gross Rent at Sale	178,500
Total Non-Recov. Cost	0
Total Ground Rent Deduct.	0
Turnover Rent	0
Net Rent at Sale	178,500
Yield%	5.5000%
YP	18.1818
Capital Value	3,245,455
Manual Capital Value	0
Stage	Sale
Starts In	May 2011
Distribution Months	1

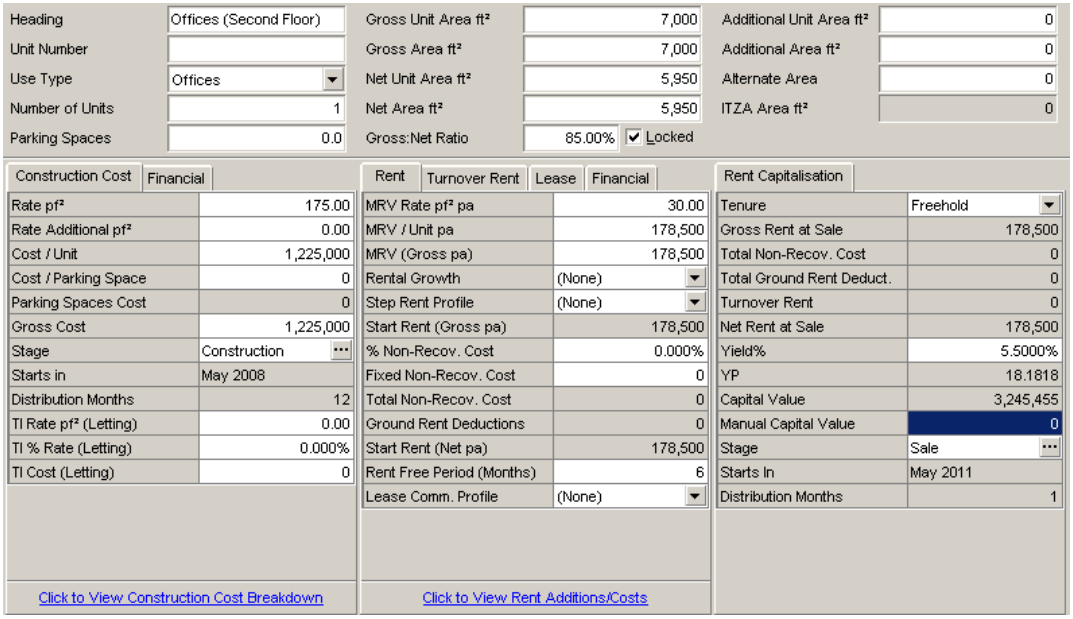
Defining the third area (second floor offices)

The third area we are going to define is for some second floor offices.

1. Click on the **Add Area** button to add a new area tab. This new tab will be initially titled “Area 3”:
2. In the **Heading** field, type in “Offices (Second Floor)”.
3. In the **Use Type** drop-down, select the “Offices” option.

4. In the **Number of Units** field, type in “1”.
5. In the **Gross:Net Ratio** field, select the value in the field and type in “85”.
6. Click on the **Locked** check box to lock the Gross: Net Ratio in place.
7. In the **Gross Unit Area** field, type in “7000”. Press the Tab key.
8. On the **Construction Costs** tab, in the **Rate pf^2** (or **Rate pm^2**) field, type in “175”. Press the Tab key.
9. On the Rent tab, in the **MRV Rate pf^2 pa** (or **MRV Rate pm^2 pa**) field, type in “30”. Press the Tab key.
10. In the **Rent Free Period (mths)** field, type in “6”.
11. On the Rent Capitalisation tab, in the **Tenure** drop-down, select the “Freehold” option.
12. In the **Yield%** field, select the value in the field and type in “5.5”. Press the Tab key.

Your settings should now look like this:



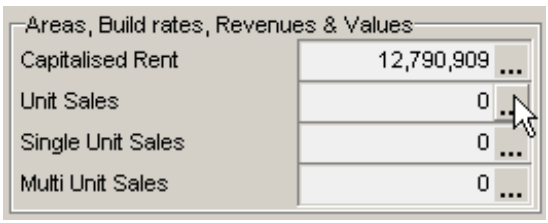
13. Click on the **OK** button to close down the window.

You have now completed setting up the Capitalised Rent values. You can proceed to set up values for Sales.

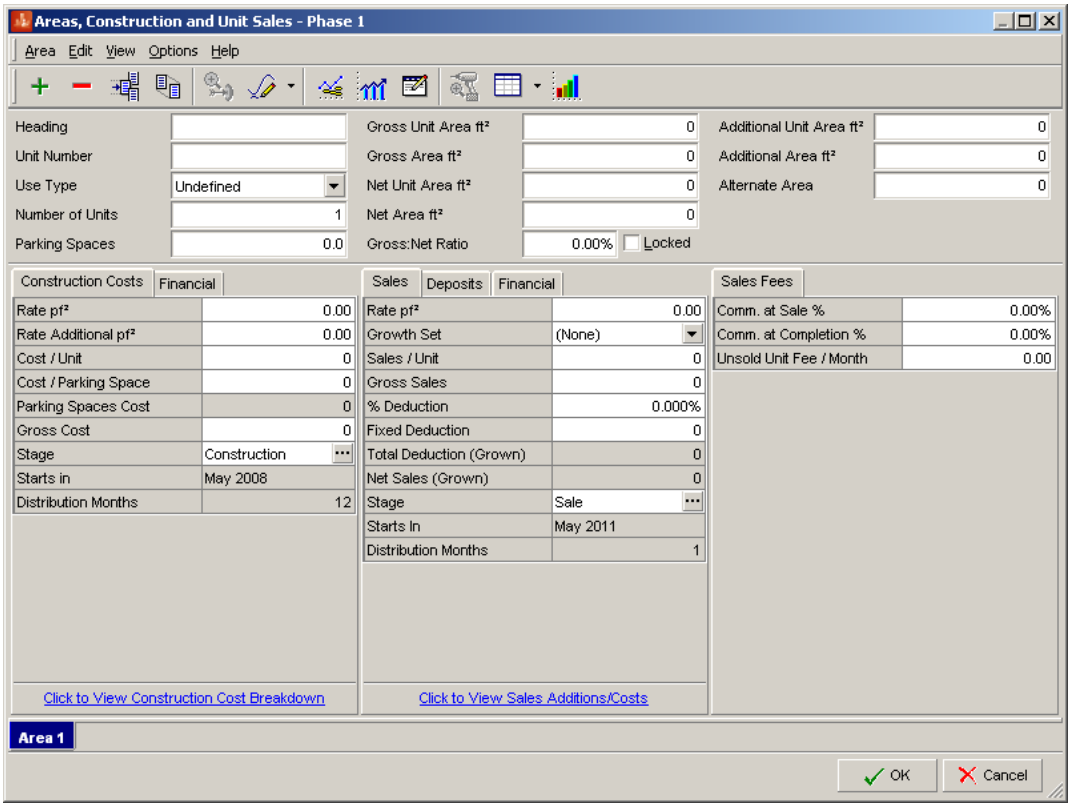
Sales

Now we will enter details of the residential units that will be sold directly to owner-occupiers.

Click on the **Detail View** button next to the **Unit Sales** field:



This will open the Areas, Construction and Sales window:

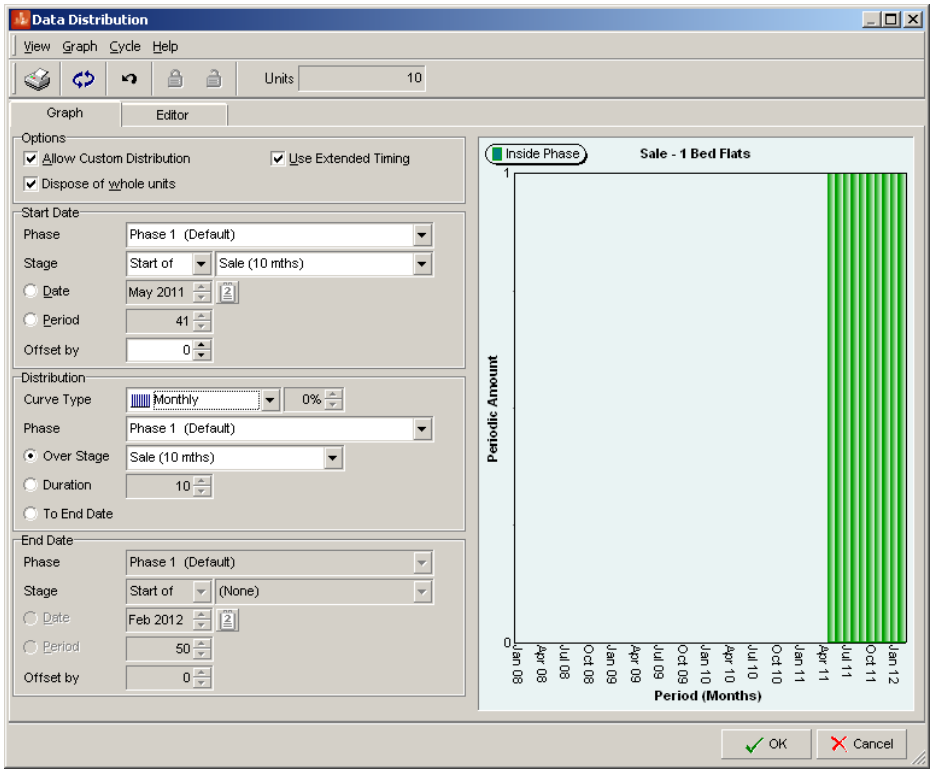


For this walkthrough, we will set up two areas for sales.

Defining the first area (1 bed flats)

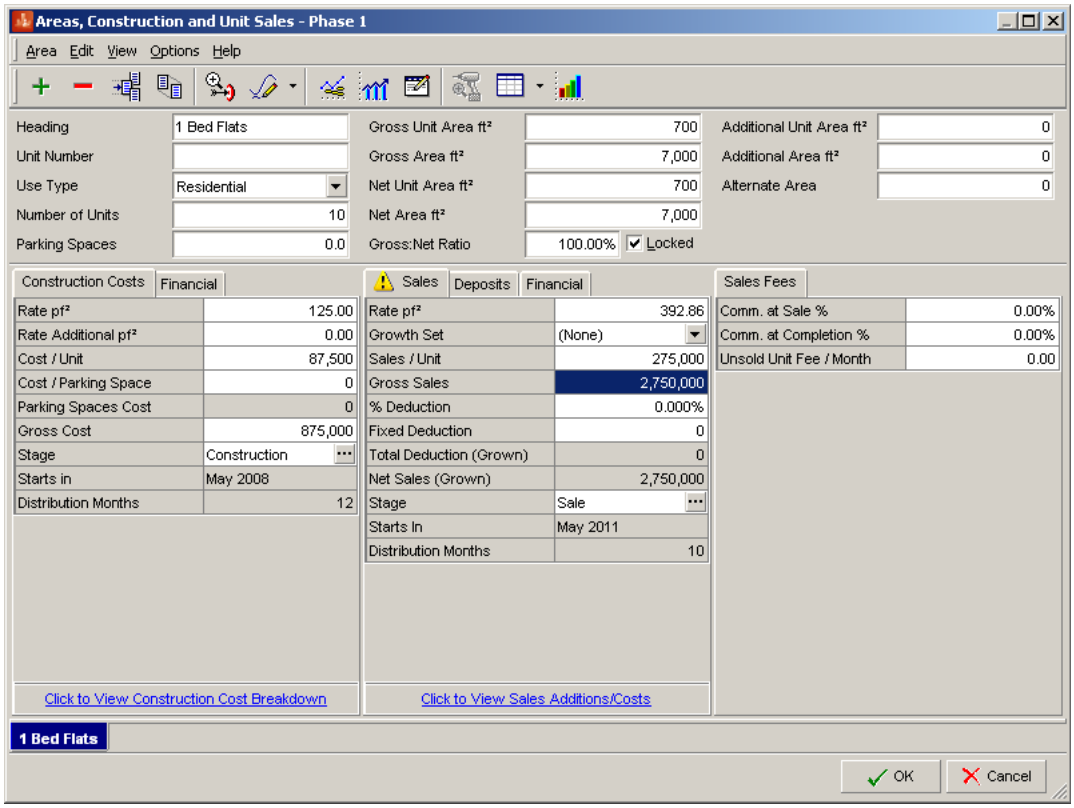
1. In the **Heading** field, type in “1 Bed Flats”.
2. In the **Use Type** drop-down, select the “Residential” option.
3. In the **Number of Units** field, type in “10”.
4. In the **Gross Unit Area ft^2** (or **Gross Unit Area m^2**) field, type in “700”. Press the Tab key.
5. In the **Gross:Net Ratio** field, select the value and type in “100”.
6. Click on the **Locked** check box to lock the Gross: Net Ratio in place.
7. On the Construction Costs tab, in the **Rate pf^2** (or **Rate pm^2**) field, type in “125”. Press the Tab key.
8. On the Sales tab, in the **Sales/Unit** field, type in “275000”. Press the Tab key.
9. Click on the **Distribution** button and select the **Sales...** option to open the Data Distribution window.
10. Check the **Allow Custom Distribution** check box.
11. Check the **Dispose of whole units** check box.
12. In the **Distribution** section, select the “Sale (10 mths)” option in the **Over Stage** control.

13. In the **Curve Type** drop-down, select “Monthly”.



14. Click **OK** to close down the window.

The screen should look like the following:

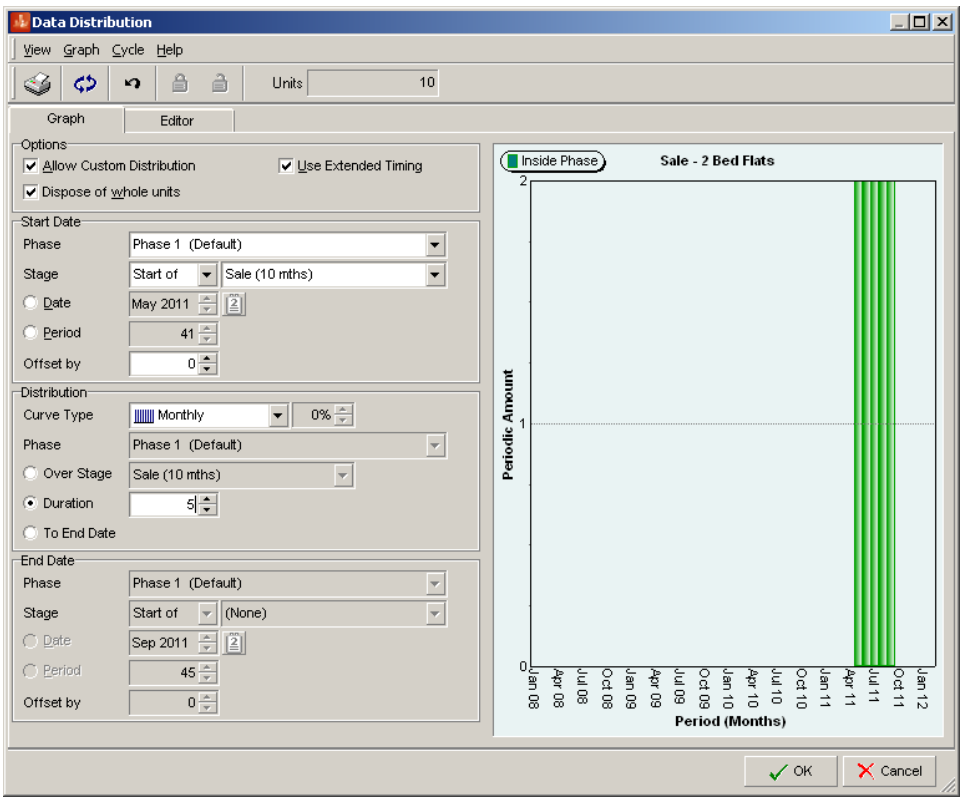


You can now proceed to set up the second area.

Defining the second area (2 bed flats)

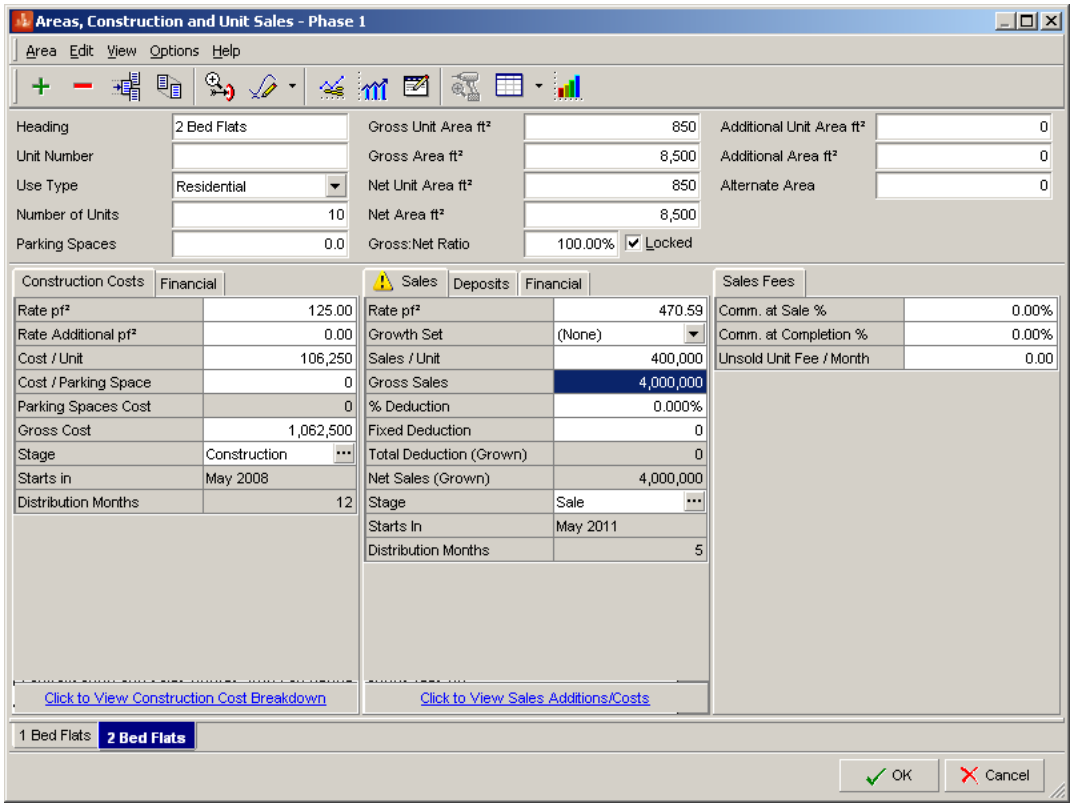
The second area we are going to define is for some 2 bed flats.

1. To add a new area, click on the **Add Area** button:
2. This will add a new tab, initially titled “Area 2”:
3. In the **Heading** field, type in “2 Bed Flats”.
4. In the **Use Type** drop-down, select the “Residential” option.
5. In the **Number of Units** field, type in “10”.
6. In the **Gross Unit Area ft^2** (or **Gross Unit Area m^2**) field, type in “850”. Press the Tab key.
7. In the **Gross:Net Ratio** field, select the value and type in “100”.
8. Click on the **Locked** check box to lock the Gross: Net Ratio in place.
9. On the Construction Costs tab, in the **Rate pf^2** (or **Rate pm^2**) field, type in “125”. Press the Tab key.
10. On the Sales tab, in the **Sales/Unit** field, type in “400000”.
11. Click on the **Distribution** button and select the **Sales...** option to open the Data Distribution window.
12. Check the **Allow Custom Distribution** check box.
13. Check the **Dispose of whole units** check box.
14. In the **Curve Type** drop-down, select the “Monthly” option.
15. In the **Duration** field, type in “5” to set the duration to 5 months.



16. Click **OK** to close down the window.

The screen should look like the following:



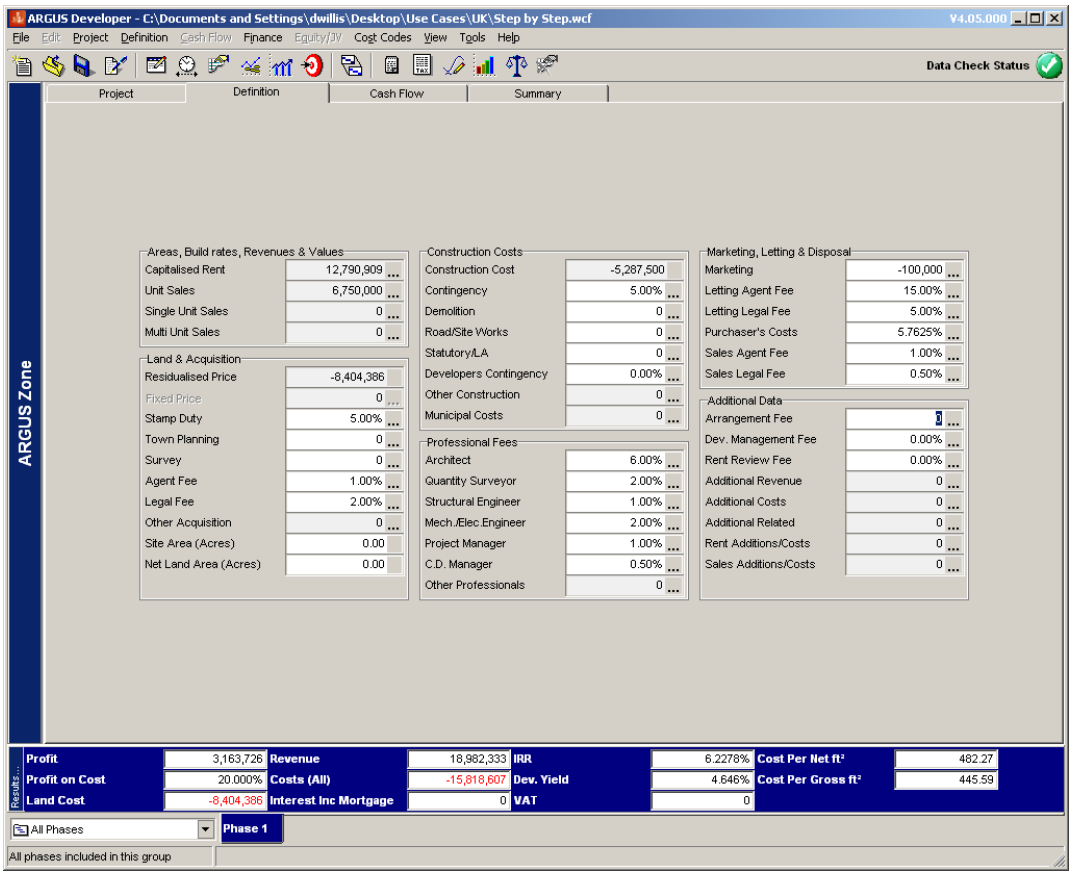
17. Click on the **OK** button to accept your settings and exit from the Traditional Construction and Sales window.

Fees

Now that you have entered the rent capitalisation and sales figures, you can define various fees on the Definition page; most of these will be defined as percentages.

1. In the **Stamp Duty** field, type in “5”.
2. In the **Agent Fee** field, type in “1”.
3. In the **Legal Fee** field, type in “2”.
4. In the **Contingency** field, type in “5”.
5. In the **Architect** field, type in “6”.
6. In the **Quantity Surveyor** field, type in “2”.
7. In the **Structural Engineer** field, type in “1”.
8. In the **Mech/Elec Engineer** field, type in “2”.
9. In the **Project Manager** field, type in “1”.
10. In the **CD Manager** field, type in “0.5”.
11. In the **Marketing** field, type in “100000”.
12. In the **Letting Agent Fee** field, type in “15”.
13. In the **Letting Legal Fee** field, type in “5”.
14. In the **Purchaser’s Costs** field, type in “5.7625”.
15. In the **Sales Agent Fee** field, type in “1”.
16. In the **Sales Legal Fee** field, type in “0.5”.

Your screen should now look something like the following:



That's it! You have now successfully defined the costs that will be used in the calculations. Please proceed to the next chapter, "Structured Finance" on page 35.

Note: If you wish to save your work at this point, skip ahead to "Saving files" on page 71.

CHAPTER 7

Structured Finance

Let's assume that our project is to be financed by two equity partners (contributing 10% and 20% project costs upfront) with the remainder financed through a bank loan, for which there will be fees and interest payable.

After repaying all parties, any profit will be shared between the two equity parties in a 60:40 split.

To open the Structured Finance module, you can either click on the **Structured Finance** button:

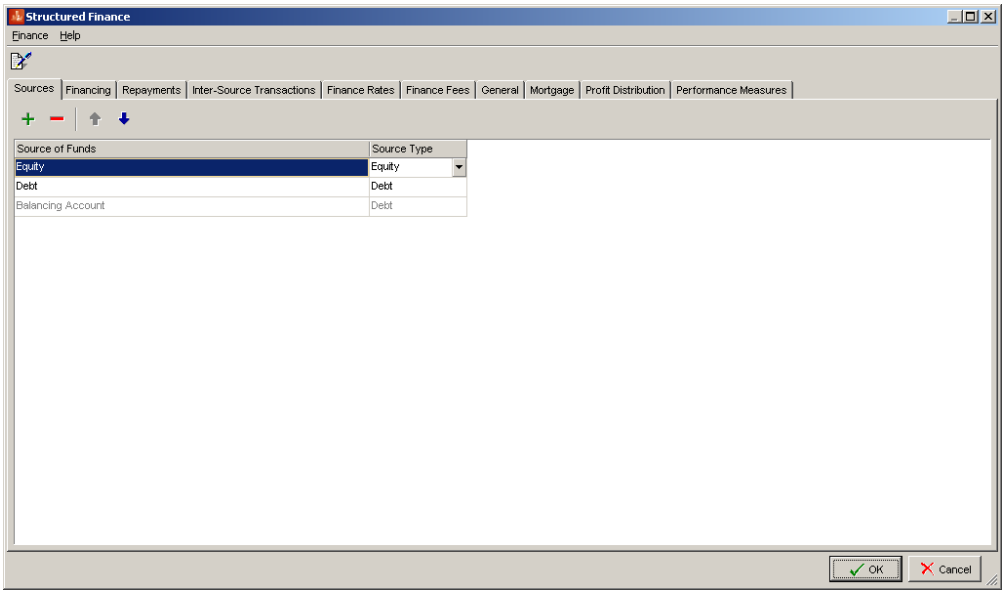
or you can use the **Project | Structured Finance...** menu option.

Alternatively, you can use the **Finance | Setup Funding Sources...** menu option.

The Structured Finance window allows you to define funding sources and specify the structure of finance in your project.

Sources tab

1. Click on the **Sources** tab to begin setting up funding sources.

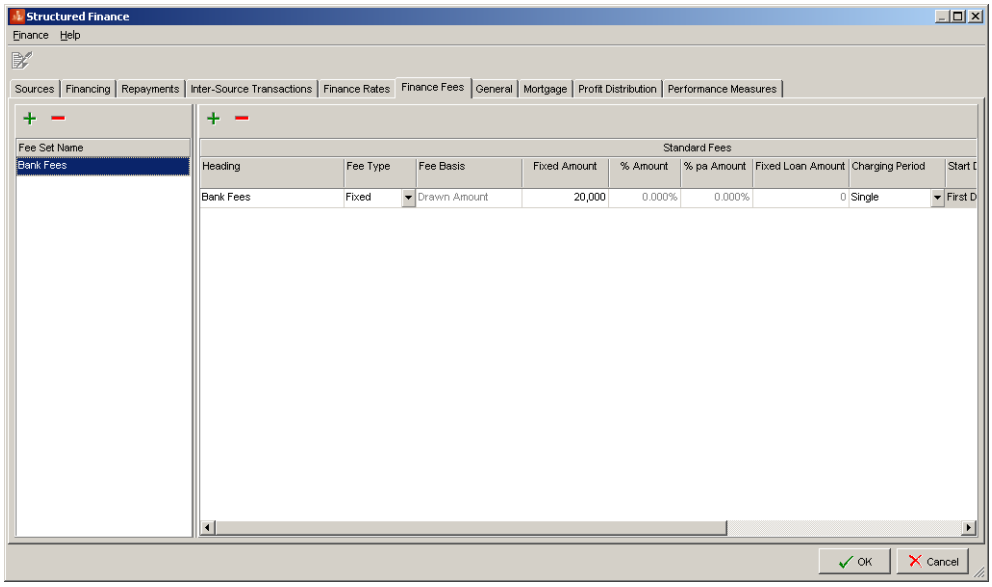


2. On the Sources page, click on the **Add Source** button to add a new item.
   By default, there will be several items already in the list ("Equity", "Debt" and "Balancing Account").
3. Give it the name "Equity 2" and select "Equity" from the **Source Type** drop-down.

You can now proceed to the next section.

Finance Fees tab

1. Click on the Finance Fees tab to open the Finance Fees page.
   Here, you will create a Fee Set that will be referenced elsewhere in ARGUS Developer, such as in the items you will create on the Financing page.

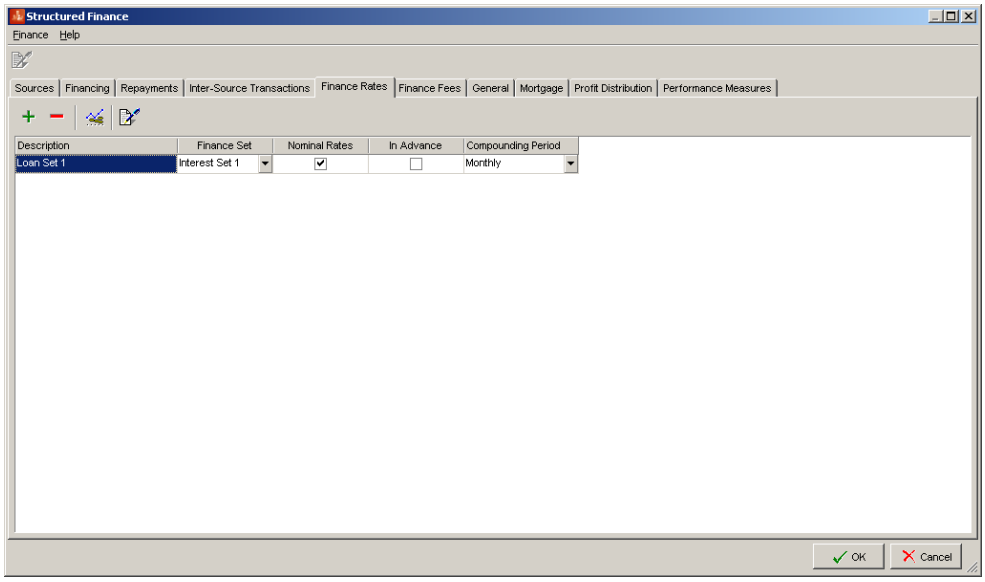


2. Click on the **Add Loan Fee Set** button to add a new item to the list - this will be automatically named “Fee Set 1”.
3. In the **Fee Set Name** column, type in “Bank Fees”.
4. In the **Heading** column, type in “Bank Fees”.
5. In the **Fee Type** drop-down, select “Fixed”.
6. In the **Fixed Amount** field, type in “20,000”.

You can now proceed to the next section.

Finance Rates tab

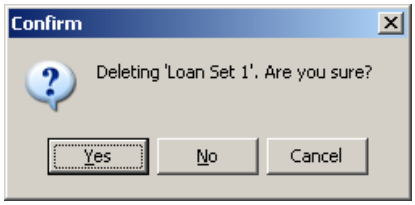
1. Click on the Finance Rates tab to open the Finance Rates page.



   This page will show one Finance Set by default.

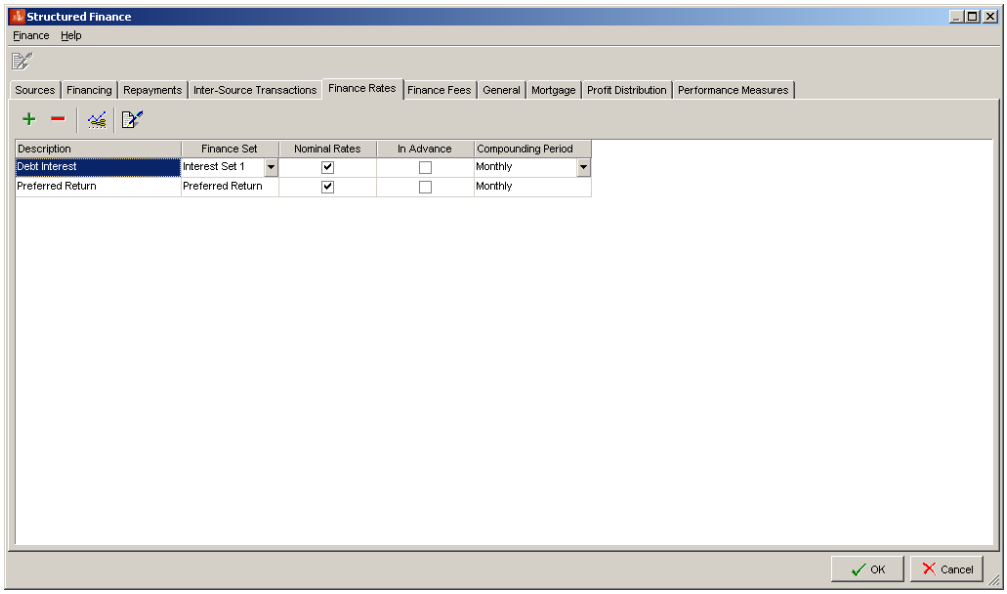
2. We're not going to use this Finance Set, so you can remove it by clicking on the **Delete Finance Set** button:

3. When prompted to do so, confirm the deletion:



4. To add a new item to the list, click on the **Add Finance Set** button:
5. This will add a new item with the default name "Loan Set 1". In the **Description** field, type in "Debt Interest".
6. In the **Finance Set** drop-down, select the "Interest Set 1" option.
7. Check the **Nominal Rates** check box.
8. Click on the **Add Finance Set** button again to create a new Finance Set.
9. In the **Description** field, rename this to read "Preferred Return".
10. In the **Finance Set** drop-down, select the "Preferred Return" option.
11. Check the **Nominal Rates** check box.

Your screen should look like the following:

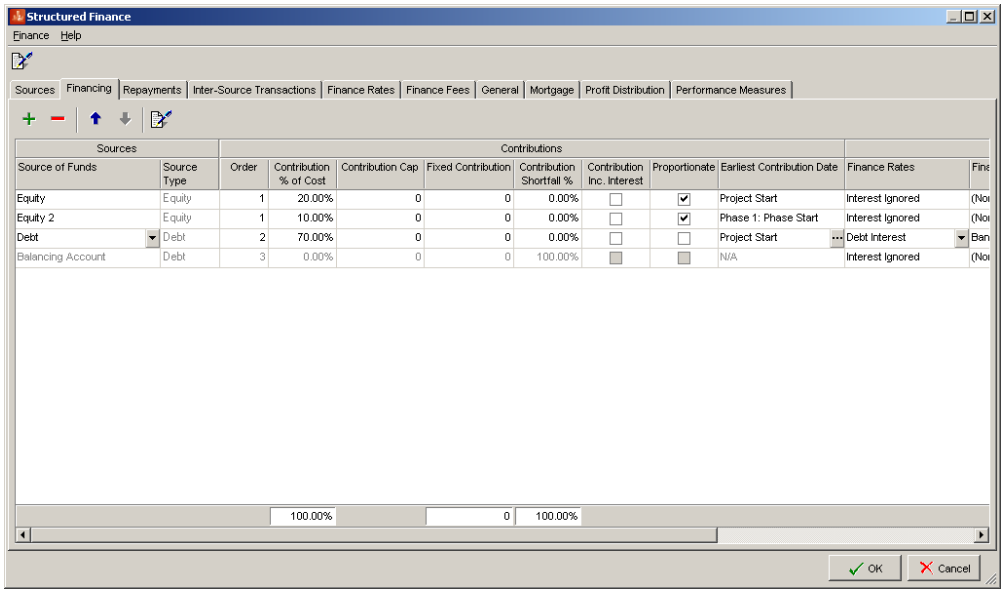


You can now proceed to the next section.

Financing tab

1. Click on the Financing tab to open the Financing page.
   By default, there will be several items already in the list ("Equity", "Debt" and "Balancing Account"). These items will have no values defined, but for the purposes of this walkthrough, we will define some values for them.
2. For the "Equity" item, type "20" in the **Contribution % of Cost** column. Check the **Proportionate** check box for this item.

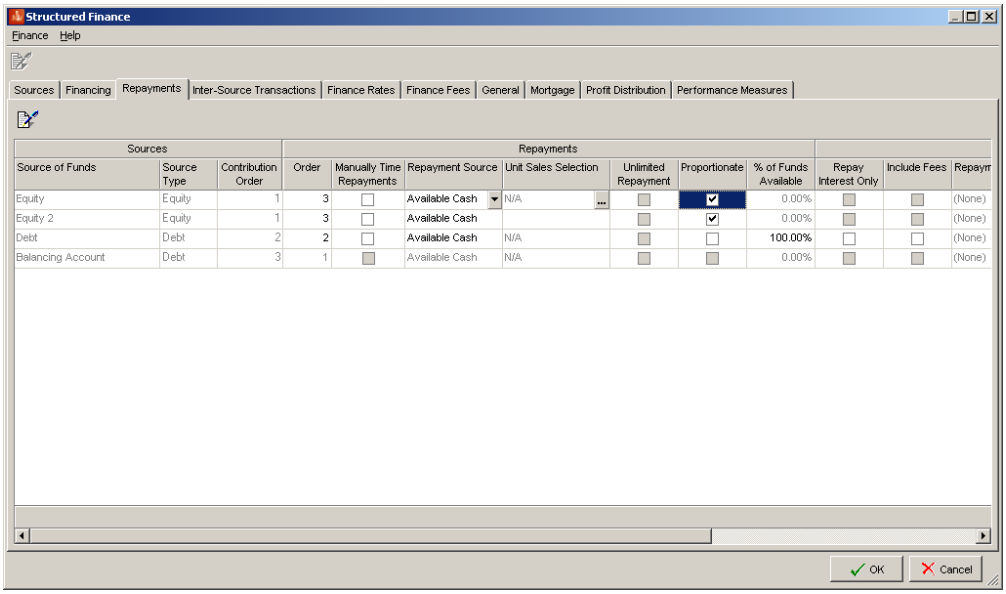
3. To add a new item to the list, click on the **Add Source** button:
4. In the **Source of Funds** drop-down for this new item, select the “Equity 2” source (this is the financing source you created earlier).
5. In the **Order** field, type in “1”.
6. Type “10” in the **Contribution % of Cost** column. Check the **Proportionate** check box for this item.
7. Click on the **Move Up** or **Move Down** arrows so that the new item is positioned below the “Equity” item.
8. For the “Debt” item, in the **Contribution % of Cost** column, type in “70”.
9. In the **Finance Rates** drop-down, select the “Debt Interest” option.
10. In the **Finance Fees** drop-down, select the “Bank Fees” option (this is the Fee Set you created earlier).



You can now proceed to the next section.

Repayments tab

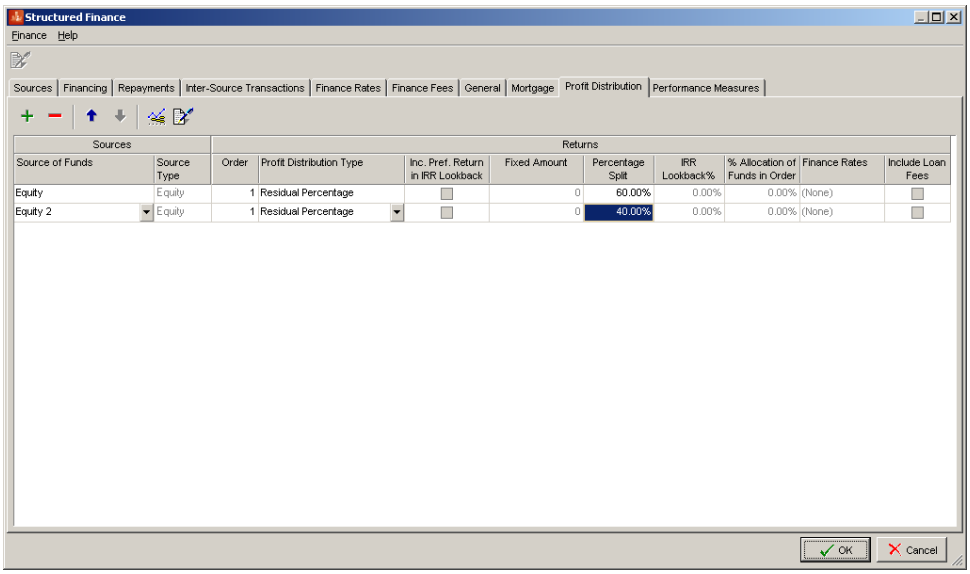
1. Click on the Repayments tab to open the Repayments page.
   The finance sources should already be listed here.
   The Balancing Account is always repaid first (in order 1). We will assume that the debt is repaid next (order 2) and then finally the two equity partners (in order 3).
2. Check the **Proportionate** check boxes of both the “Equity” and “Equity 2” items - so that they are repaid proportionate to their original contributions.



You can now proceed to the next section.

Profit Distribution tab

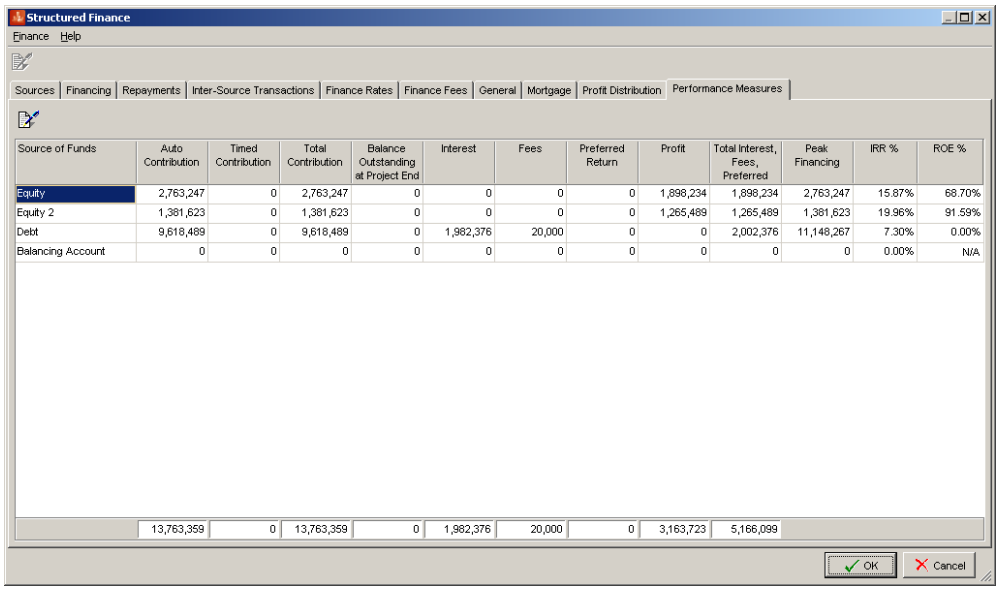
1. Click on the Profit Distribution tab to open the Profit Distribution page.
2. To add a new item to the list, click on the **Add Source** button:
3. In the **Source of Funds** drop-down, select the “Equity” option.
4. In the **Profit Distribution Type** drop-down, select the “Residual Percentage” option.
5. In the **Percentage Split** field, type in “60”.
6. Use the **Add Source** button to add another item to the list.
7. In the **Source of Funds** drop-down, select the “Equity 2” option.
8. In the **Profit Distribution Type** drop-down, select the “Residual Percentage” option.
9. In the **Percentage Split** field, type in “40”.



You can now proceed to the next section.

Performance Measures tab

1. Click on the Performance Measures tab to open the Performance Measures page.
   This is a view-only page, displaying the financial split for the various funding sources you have defined:



Source of Funds	Auto Contribution	Timed Contribution	Total Contribution	Balance Outstanding at Project End	Interest	Fees	Preferred Return	Profit	Total Interest, Fees, Preferred	Peak Financing	IRR %	ROE %
Equity	2,763,247	0	2,763,247	0	0	0	0	1,898,234	1,898,234	2,763,247	15.87%	68.70%
Equity 2	1,381,623	0	1,381,623	0	0	0	0	1,265,489	1,265,489	1,381,623	19.96%	91.59%
Debt	9,618,489	0	9,618,489	0	1,982,376	20,000	0	0	2,002,376	11,148,267	7.30%	0.00%
Balancing Account	0	0	0	0	0	0	0	0	0	0	0.00%	N/A
	13,763,359	0	13,763,359	0	1,982,376	20,000	0	3,163,723	5,166,099			

2. Click on the **OK** button to close down the Structured Finance window.

Please proceed to the next chapter, “The Cash Flow Tab” on page 41.

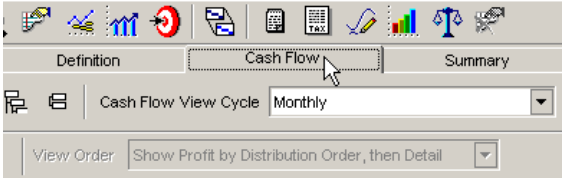
Note: If you wish to save your work at this point, skip ahead to “Saving files” on page 71.

CHAPTER 8

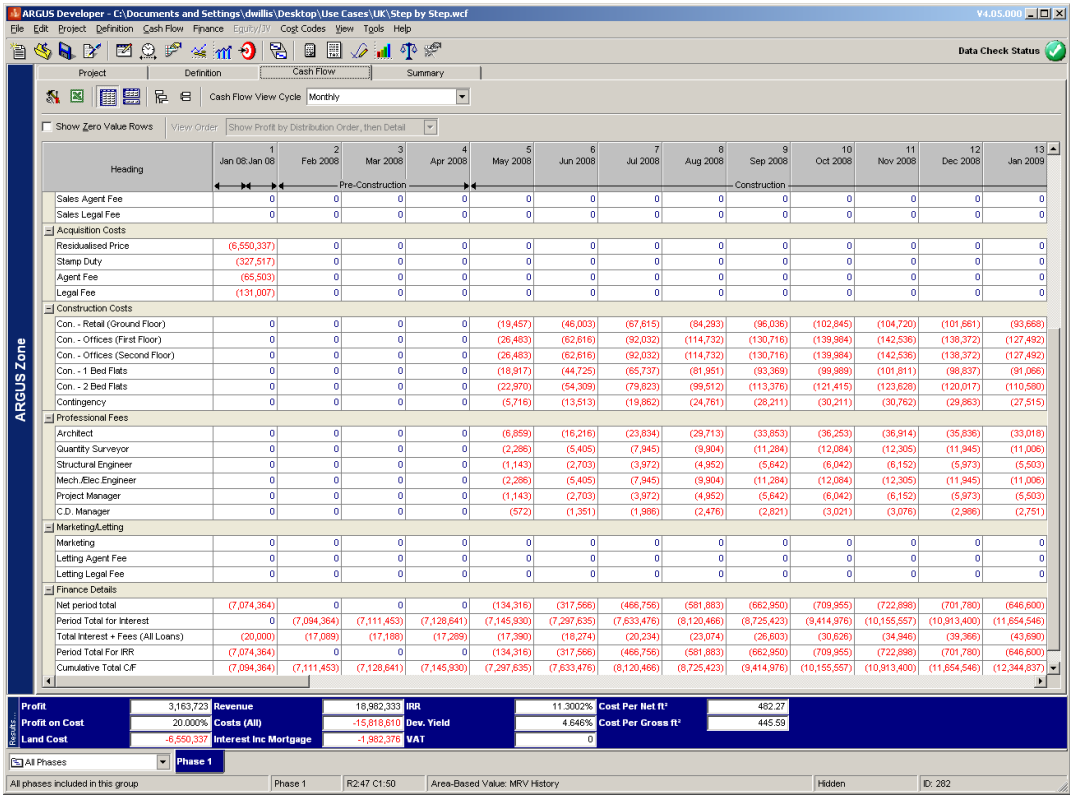
The Cash Flow Tab

This chapter walks you through the tasks you must perform with the Cash Flow tab. The Cash Flow page displays all the financial data in one place, showing the amounts for each time period (monthly, quarterly, half yearly or annually).

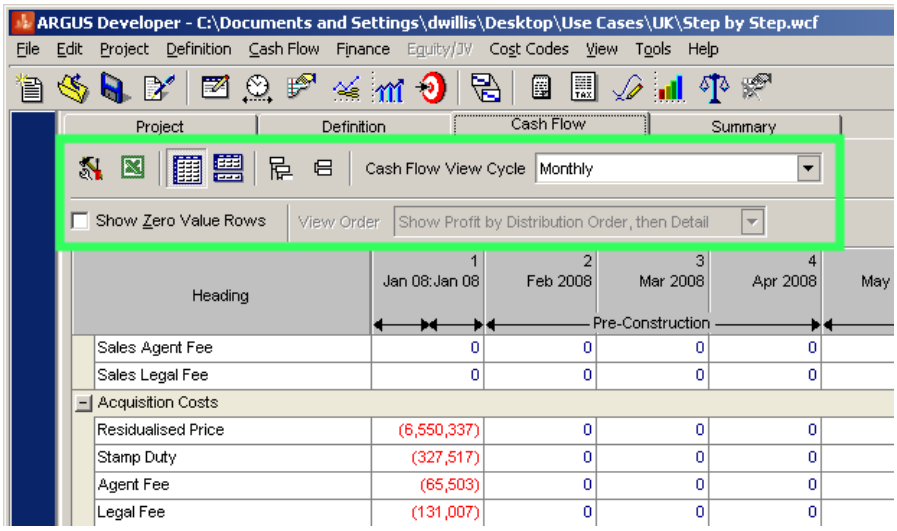
To open the Cash Flow page, click on the Cash Flow tab:



All the data you input when you were following the Definition chapter will be displayed in the cash flow, spread out over all the periods in the project:



The following picture shows the various buttons and controls (outlined in green) that you will use to interact with the cash flow:



You can use these buttons to change the "look and feel" of the cash flow, and to change the period units used for the display.

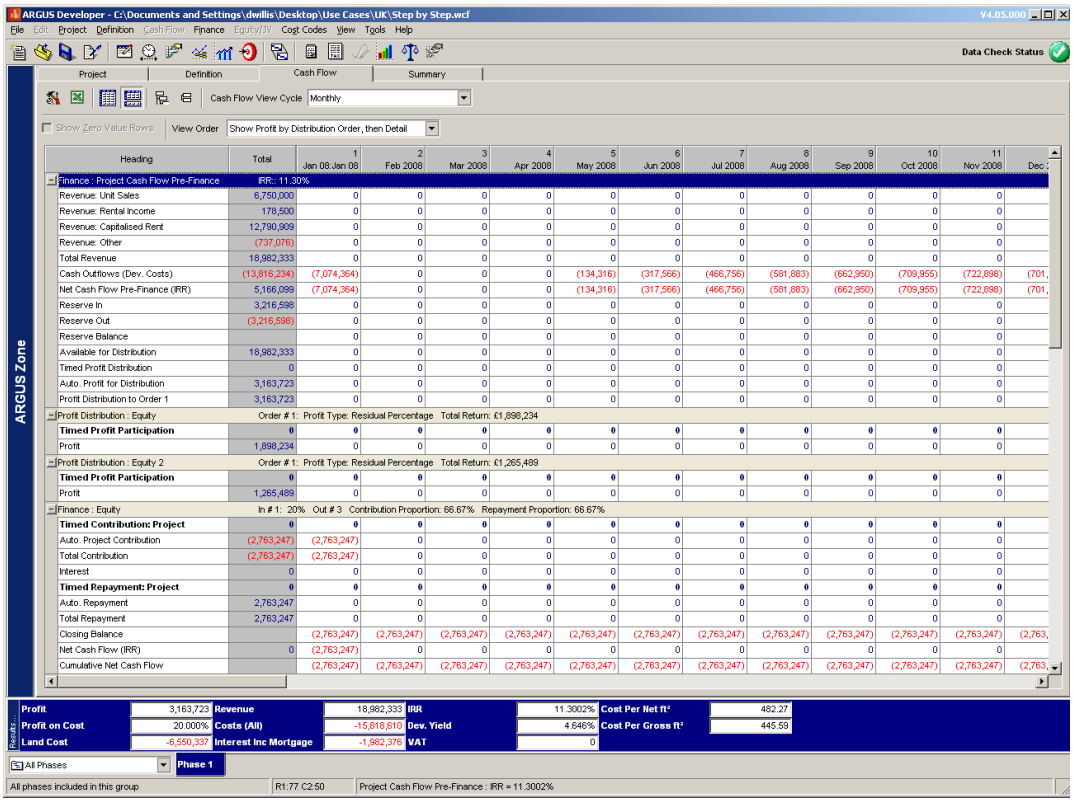
Customising the look of the cash flow

In this exercise, we will show how it is possible to change the look of the cash flow, making it possible for you to view the data in different ways.

Finance Cash Flow

To change the view to a finance cash flow, click on the **Finance Cash Flow** button:

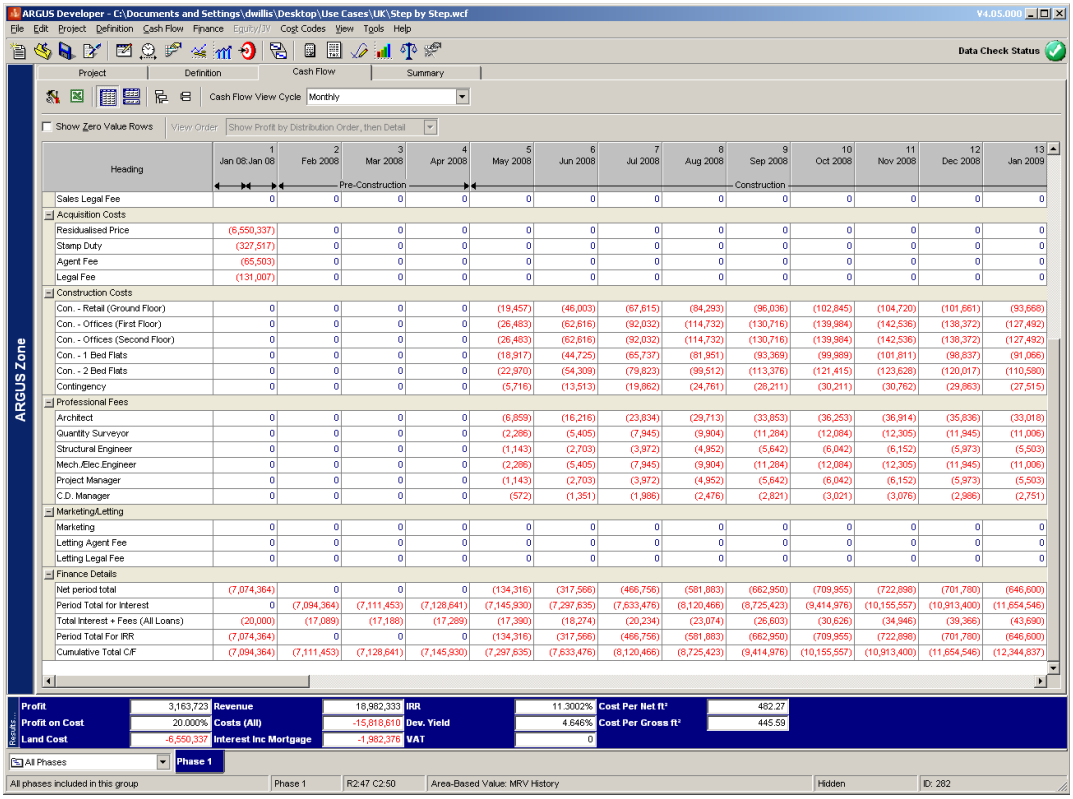
This will change the cash flow display to look something like the following:



Project Cash Flow

To change the view to a project cash flow, click on the **Project Cash Flow** button:

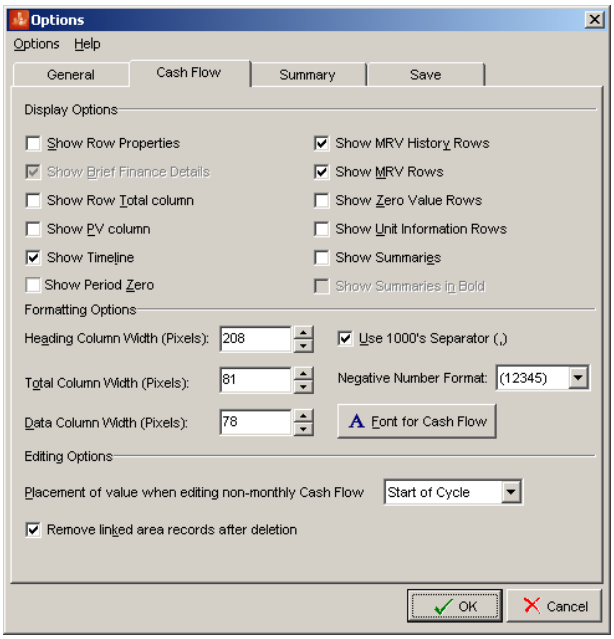
This will change the cash flow display to look something like the following:



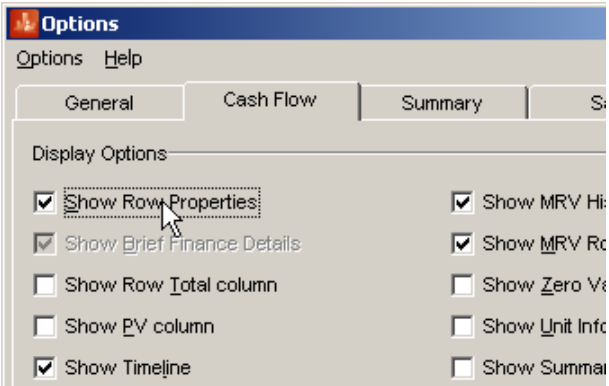
Setting options

To further configure the “look and feel” of the cash flow, you can also change some options.

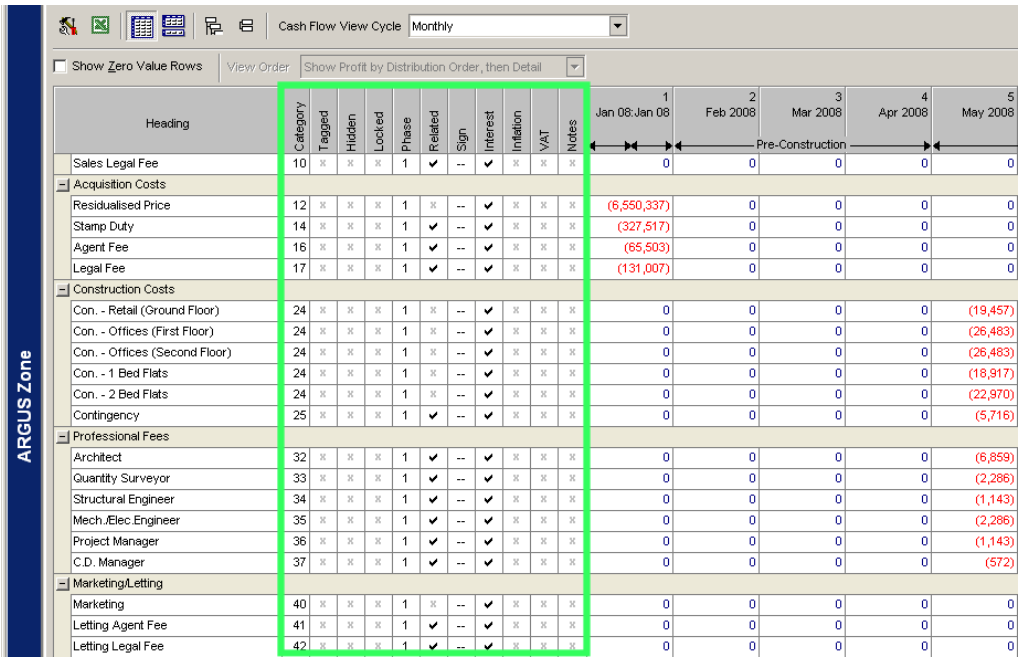
1. To do this, click on the **Cash Flow Options** button:
   This will open the Options window at the Cash Flow page:



2. Here, we will switch on the Row Properties feature to show you what it looks like. Check the **Show Row Properties** check box:

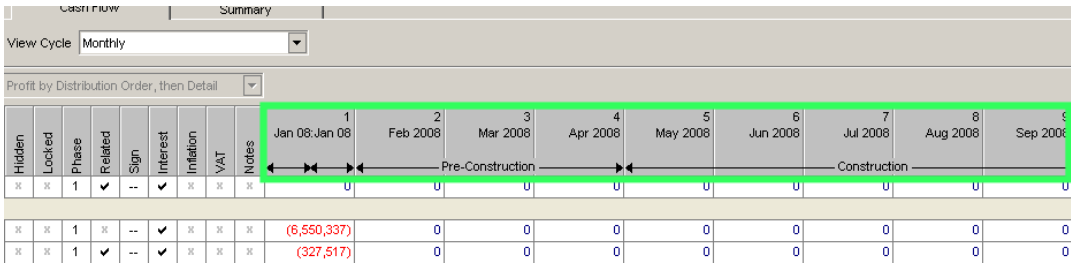


3. Click on **OK**.
4. This will change your cash flow display to show some thin columns (outlined in green below):



These columns show you various types of status and settings for each row. Please refer to your main user guide for further details of these columns.

To show the Timeline feature, click on the **Show Timeline** check box. This will display the timeline in the Cash Flow (outlined in green below):

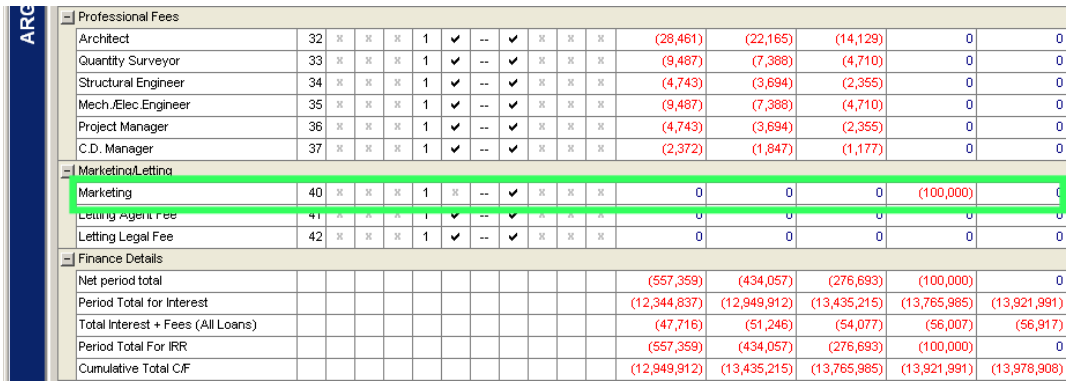


Data Distribution

Occasionally, you may wish to change the distribution of a cost item you have entered, so that the amount is in a different period, or spread out over a different number of months.

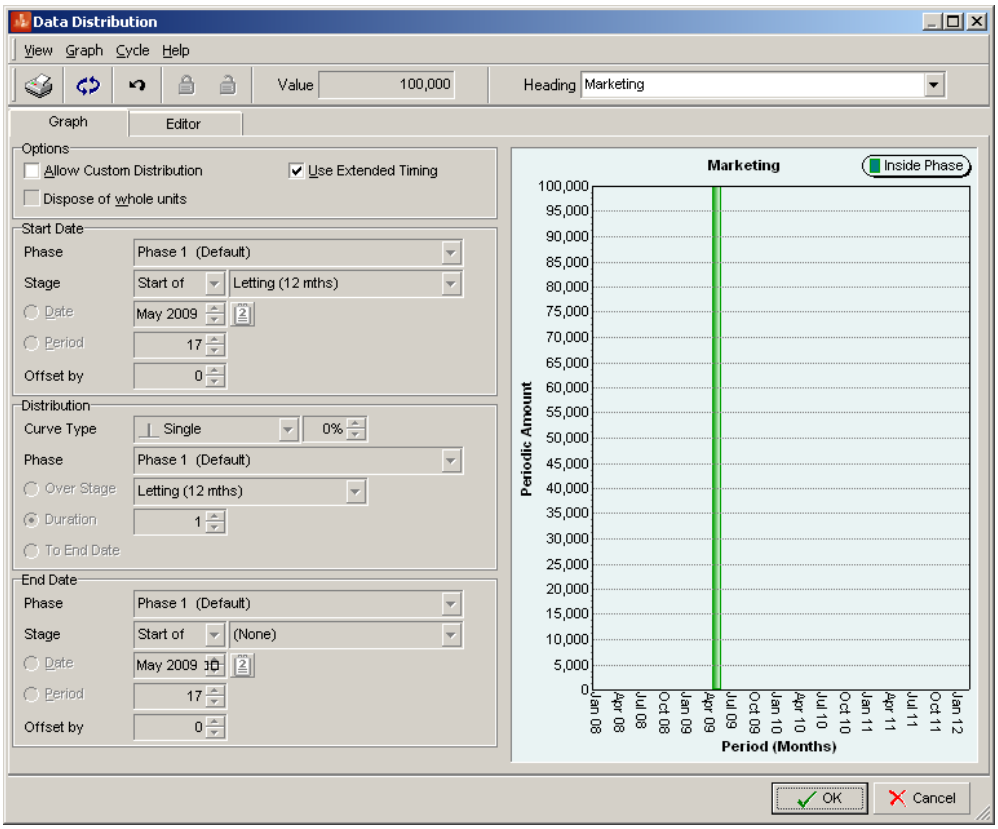
In this walkthrough, we will show you how to redistribute the amount you entered earlier for Marketing.

1. In the Cash Flow, find the amount for Marketing (this is 100,000 and is in month 17 - outlined in green below):



Professional Fees																
Architect	32	x	x	x	1	✔	--	✔	x	x	x	(28,461)	(22,165)	(14,129)	0	0
Quantity Surveyor	33	x	x	x	1	✔	--	✔	x	x	x	(9,487)	(7,388)	(4,710)	0	0
Structural Engineer	34	x	x	x	1	✔	--	✔	x	x	x	(4,743)	(3,694)	(2,355)	0	0
Mech./Elec.Engineer	35	x	x	x	1	✔	--	✔	x	x	x	(9,487)	(7,388)	(4,710)	0	0
Project Manager	36	x	x	x	1	✔	--	✔	x	x	x	(4,743)	(3,694)	(2,355)	0	0
C.D. Manager	37	x	x	x	1	✔	--	✔	x	x	x	(2,372)	(1,847)	(1,177)	0	0
Marketing/Letting																
Marketing	40	x	x	x	1	x	--	✔	x	x	x	0	0	0	(100,000)	0
Letting Agent Fee	41	x	x	x	1	✔	--	✔	x	x	x	0	0	0	0	0
Letting Legal Fee	42	x	x	x	1	✔	--	✔	x	x	x	0	0	0	0	0
Finance Details																
Net period total												(557,359)	(434,057)	(276,693)	(100,000)	0
Period Total for Interest												(12,344,837)	(12,949,912)	(13,435,215)	(13,765,985)	(13,921,991)
Total Interest + Fees (All Loans)												(47,716)	(51,246)	(54,077)	(56,007)	(56,917)
Period Total For IRR												(557,359)	(434,057)	(276,693)	(100,000)	0
Cumulative Total C/F												(12,949,912)	(13,435,215)	(13,765,985)	(13,921,991)	(13,978,908)

2. Right-click on this amount and select the **Data Distribution** menu option. This opens the Data Distribution window:



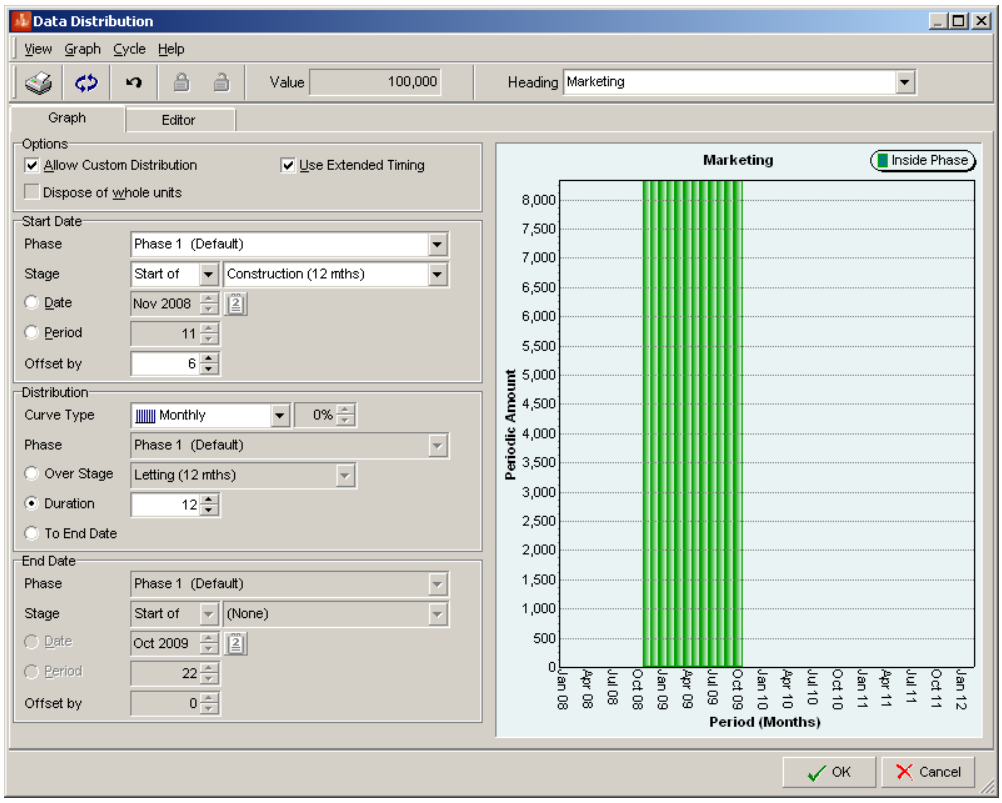
This shows the current distribution as a single amount of 100,000 in month 17.

3. To allow changes to be made, check the **Allow Custom Distribution** check box.

4. To link the start period to the Construction stage, use the “Construction (12 mths)” option in the **Stage** drop-down (in the **Start Date** section).

5. To offset the start so the redistributed amounts fall within the phase, use the **Offset by** control in the **Start Date** section to specify an offset of 6 months.

6. To redistribute the amount, spreading it over 12 months, use the **Duration** control in the **Distribution** section to specify a value of "12".
   Your Data Distribution window should look like this:



There are many other settings that you could use in this window (we have just covered two features); please refer to the main user guide for further information.

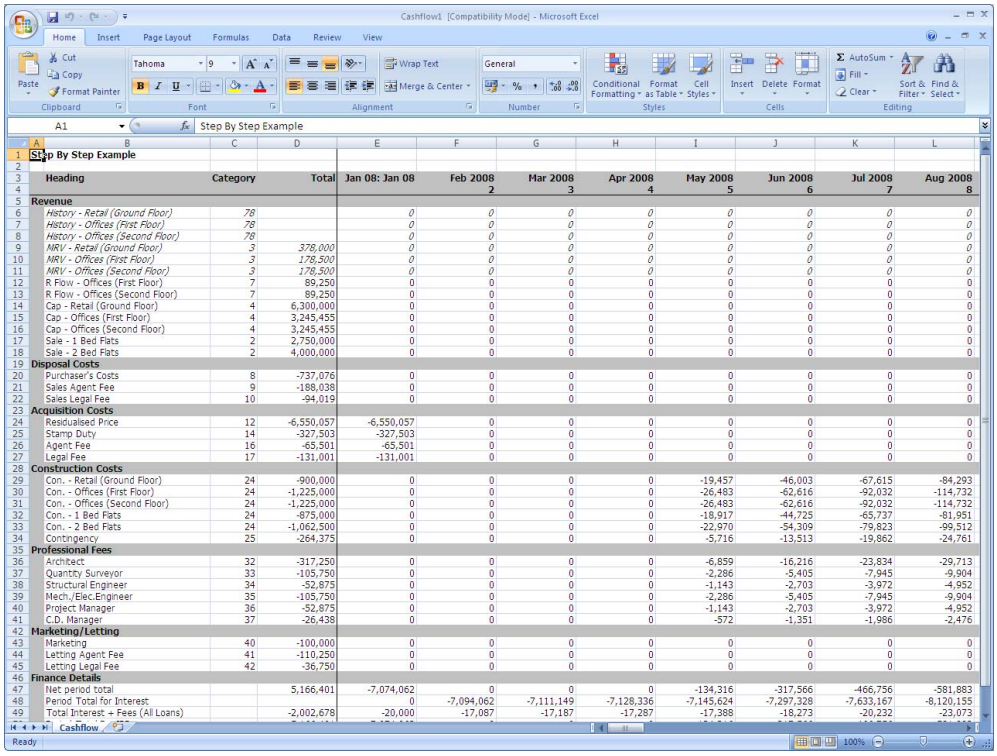
7. Click **OK** to accept your settings. Your cash flow should change to show the Marketing amount redistributed over 12 months:

Heading	Category	Tagged	Hidden	Locked	Phase	Related	Sign	Interest	Inflation	VAT	Notes	11 Nov 2008	12 Dec 2008	13 Jan 2009	14 Feb 2009	15 Mar 2009	16 Apr 2009	17 May 2009	18 Jun 2009	19 Jul 2009
														Construction					Letting	
Sales Legal Fee	10	×	×	×	1	✔	--	✔	×	×	×	0	0	0	0	0	0	0	0	0
Acquisition Costs																				
Residualised Price	12	×	×	×	1	×	--	✔	×	×	×	0	0	0	0	0	0	0	0	0
Stamp Duty	14	×	×	×	1	✔	--	✔	×	×	×	0	0	0	0	0	0	0	0	0
Agent Fee	16	×	×	×	1	✔	--	✔	×	×	×	0	0	0	0	0	0	0	0	0
Legal Fee	17	×	×	×	1	✔	--	✔	×	×	×	0	0	0	0	0	0	0	0	0
Construction Costs																				
Con. - Retail (Ground Floor)	24	×	×	×	1	×	--	✔	×	×	×	(104,720)	(101,661)	(93,668)	(80,740)	(62,878)	(40,082)	0	0	0
Con. - Offices (First Floor)	24	×	×	×	1	×	--	✔	×	×	×	(142,536)	(138,372)	(127,492)	(109,896)	(85,584)	(54,556)	0	0	0
Con. - Offices (Second Floor)	24	×	×	×	1	×	--	✔	×	×	×	(142,536)	(138,372)	(127,492)	(109,896)	(85,584)	(54,556)	0	0	0
Con. - 1 Bed Flats	24	×	×	×	1	×	--	✔	×	×	×	(101,811)	(98,837)	(91,066)	(78,497)	(61,132)	(38,969)	0	0	0
Con. - 2 Bed Flats	24	×	×	×	1	×	--	✔	×	×	×	(123,628)	(120,017)	(110,580)	(95,318)	(74,231)	(47,319)	0	0	0
Contingency	25	×	×	×	1	✔	--	✔	×	×	×	(30,762)	(29,863)	(27,515)	(23,717)	(18,470)	(11,774)	0	0	0
Professional Fees																				
Architect	32	×	×	×	1	✔	--	✔	×	×	×	(36,914)	(35,836)	(33,018)	(28,461)	(22,165)	(14,129)	0	0	0
Quantity Surveyor	33	×	×	×	1	✔	--	✔	×	×	×	(12,305)	(11,945)	(11,006)	(9,487)	(7,388)	(4,710)	0	0	0
Structural Engineer	34	×	×	×	1	✔	--	✔	×	×	×	(6,152)	(5,973)	(5,503)	(4,743)	(3,694)	(2,355)	0	0	0
Mech./Elec.Engineer	35	×	×	×	1	✔	--	✔	×	×	×	(12,305)	(11,945)	(11,006)	(9,487)	(7,388)	(4,710)	0	0	0
Project Manager	36	×	×	×	1	✔	--	✔	×	×	×	(6,152)	(5,973)	(5,503)	(4,743)	(3,694)	(2,355)	0	0	0
C.D. Manager	37	×	×	×	1	✔	--	✔	×	×	×	(3,076)	(2,986)	(2,751)	(2,372)	(1,847)	(1,177)	0	0	0
Marketing/Letting																				
Marketing	40	×	×	×	1	×	--	✔	×	×	×	(8,333)	(8,333)	(8,333)	(8,333)	(8,333)	(8,333)	(8,333)	(8,333)	(8,333)
Letting Agent Fee	41	×	×	×	1	✔	--	✔	×	×	×	0	0	0	0	0	0	0	0	0
Letting Legal Fee	42	×	×	×	1	✔	--	✔	×	×	×	0	0	0	0	0	0	0	0	0
Finance Details																				
Net period total												(731,231)	(710,113)	(654,934)	(565,693)	(442,390)	(285,026)	(8,333)	(8,333)	(8,333)
Period Total for Interest												(10,155,243)	(10,921,418)	(11,670,945)	(12,369,665)	(12,983,219)	(13,477,050)	(13,816,398)	(13,881,032)	(13,946,044)
Total Interest + Fees (All Loans)												(34,944)	(39,414)	(43,786)	(47,862)	(51,441)	(54,322)	(56,301)	(56,678)	(57,057)
Period Total For IRR												(731,231)	(710,113)	(654,934)	(565,693)	(442,390)	(285,026)	(8,333)	(8,333)	(8,333)
Cumulative Total C/F												(10,921,418)	(11,670,945)	(12,369,665)	(12,983,219)	(13,477,050)	(13,816,398)	(13,881,032)	(13,946,044)	(14,011,434)

Exporting the Cash Flow to Excel

One of the most useful features of the Cash Flow is the ability to export the contents of the Cash Flow to an Excel worksheet.

1. Click on the **Export Cash Flow to Excel** button:
   Your Cash Flow data will be displayed in an Excel worksheet, automatically opening Excel:



	Heading	Category	Total	Jan 08: Jan 08	Feb 2008	Mar 2008	Apr 2008	May 2008	Jun 2008	Jul 2008	Aug 2008
					2	3	4	5	6	7	8
5	**Revenue**										
6	*History - Retail (Ground Floor)*	*78*		*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
7	*History - Offices (First Floor)*	*78*		*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
8	*History - Offices (Second Floor)*	*78*		*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
9	*MRV - Retail (Ground Floor)*	*3*	*378,000*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
10	*MRV - Offices (First Floor)*	*3*	*178,500*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
11	*MRV - Offices (Second Floor)*	*3*	*178,500*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
12	R Flow - Offices (First Floor)	7	89,250	0	0	0	0	0	0	0	0
13	R Flow - Offices (Second Floor)	7	89,250	0	0	0	0	0	0	0	0
14	Cap - Retail (Ground Floor)	4	6,300,000	0	0	0	0	0	0	0	0
15	Cap - Offices (First Floor)	4	3,245,455	0	0	0	0	0	0	0	0
16	Cap - Offices (Second Floor)	4	3,245,455	0	0	0	0	0	0	0	0
17	Sale - 1 Bed Flats	2	2,750,000	0	0	0	0	0	0	0	0
18	Sale - 2 Bed Flats	2	4,000,000	0	0	0	0	0	0	0	0
19	**Disposal Costs**										
20	Purchaser's Costs	8	-737,076	0	0	0	0	0	0	0	0
21	Sales Agent Fee	9	-188,038	0	0	0	0	0	0	0	0
22	Sales Legal Fee	10	-94,019	0	0	0	0	0	0	0	0
23	**Acquisition Costs**										
24	Residualised Price	12	-6,550,057	-6,550,057	0	0	0	0	0	0	0
25	Stamp Duty	14	-327,503	-327,503	0	0	0	0	0	0	0
26	Agent Fee	16	-65,501	-65,501	0	0	0	0	0	0	0
27	Legal Fee	17	-131,001	-131,001	0	0	0	0	0	0	0
28	**Construction Costs**										
29	Con. - Retail (Ground Floor)	24	-900,000	0	0	0	0	-19,457	-46,003	-67,615	-84,293
30	Con. - Offices (First Floor)	24	-1,225,000	0	0	0	0	-26,483	-62,616	-92,032	-114,732
31	Con. - Offices (Second Floor)	24	-1,225,000	0	0	0	0	-26,483	-62,616	-92,032	-114,732
32	Con. - 1 Bed Flats	24	-875,000	0	0	0	0	-18,917	-44,725	-65,737	-81,951
33	Con. - 2 Bed Flats	24	-1,062,500	0	0	0	0	-22,970	-54,309	-79,823	-99,512
34	Contingency	25	-264,375	0	0	0	0	-5,716	-13,513	-19,862	-24,761
35	**Professional Fees**										
36	Architect	32	-317,250	0	0	0	0	-6,859	-16,216	-23,834	-29,713
37	Quantity Surveyor	33	-105,750	0	0	0	0	-2,286	-5,405	-7,945	-9,904
38	Structural Engineer	34	-52,875	0	0	0	0	-1,143	-2,703	-3,972	-4,952
39	Mech./Elec.Engineer	35	-105,750	0	0	0	0	-2,286	-5,405	-7,945	-9,904
40	Project Manager	36	-52,875	0	0	0	0	-1,143	-2,703	-3,972	-4,952
41	C.D. Manager	37	-26,438	0	0	0	0	-572	-1,351	-1,986	-2,476
42	**Marketing/Letting**										
43	Marketing	40	-100,000	0	0	0	0	0	0	0	0
44	Letting Agent Fee	41	-110,250	0	0	0	0	0	0	0	0
45	Letting Legal Fee	42	-36,750	0	0	0	0	0	0	0	0
46	**Finance Details**										
47	Net period total		5,166,401	-7,074,062	0	0	0	-134,316	-317,566	-466,756	-581,883
48	Period Total for Interest			0	-7,094,062	-7,111,149	-7,128,336	-7,145,624	-7,297,328	-7,633,167	-8,120,155
49	Total Interest + Fees (All Loans)		-2,002,678	-20,000	-17,087	-17,187	-17,287	-17,388	-18,273	-20,232	-23,073

If you wish, you can save this worksheet and can continue working with the data in Excel.

2. Close down Excel and proceed to the next chapter.

Note: If you wish to save your work at this point, skip ahead to "Saving files" on page 71.

CHAPTER 9

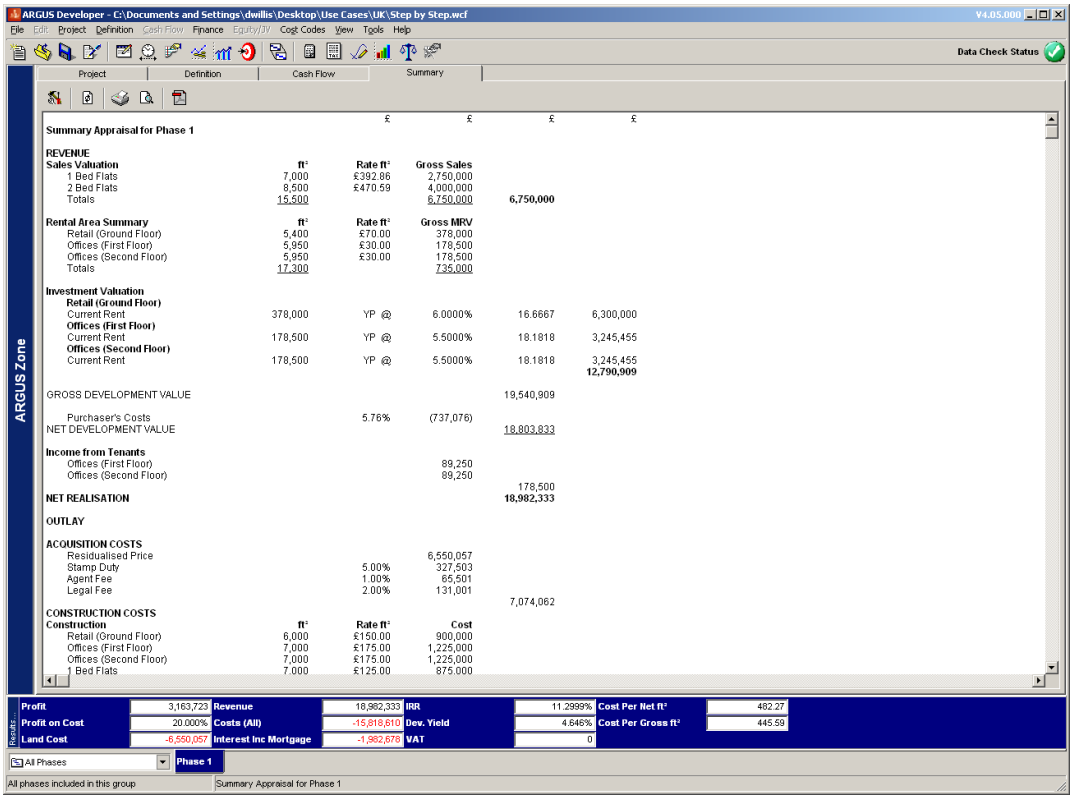
Summary Tab

The Summary report allows you to view the progress of your project and its final, calculated figures.

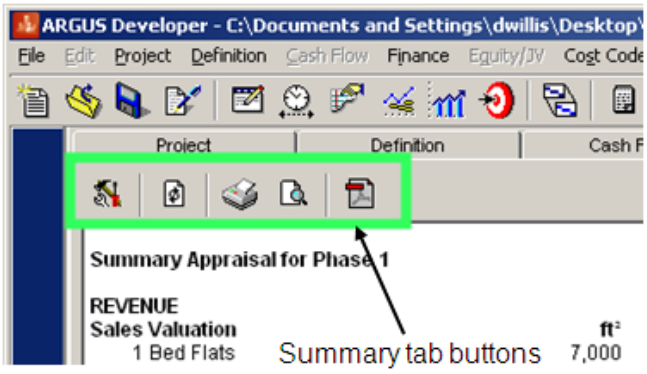
Viewing the Summary

To view the summary, click on the Summary tab:

This displays the Summary page:



At the top of the Summary page are some buttons, which you can use to perform various tasks:



You can use these buttons to configure, print out, refresh or export the Summary report.

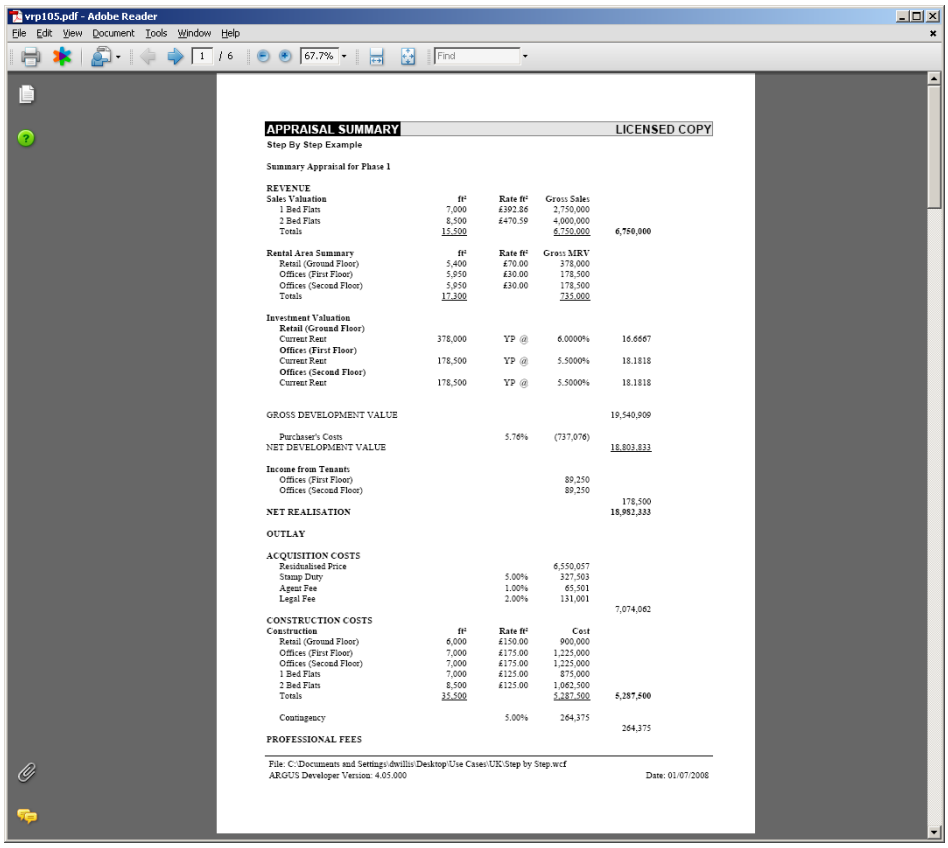
For this walkthrough, we will just show you how to use these buttons to export and print the Summary.

Exporting the summary

The **Export Summary Report to PDF** button allows you to create a PDF (Adobe Acrobat) file containing the Summary report information.

Note: Before you perform this operation, make sure you have an up-to-date version of the Adobe Acrobat reader program installed on your PC.

1. Click on this button, and the PDF will be created and displayed in the Acrobat reader window:



2. Save a copy of the PDF to your hard disk, and close down the Acrobat reader window.

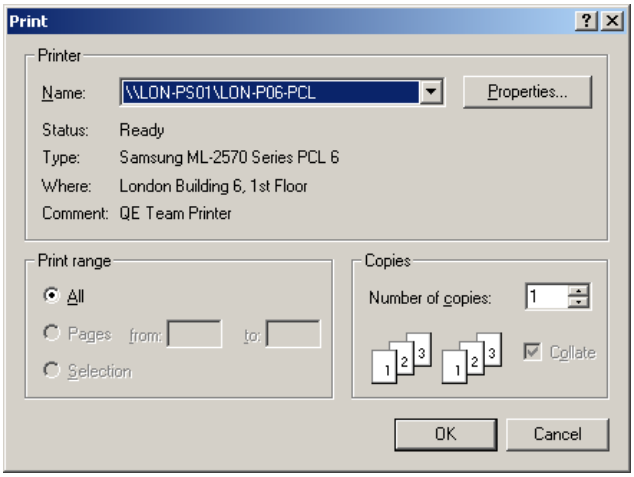
Printing the summary

To print out the summary report, you can choose either of two methods:

- From within the Summary;
- Using the Report Printer (see “Printing Reports” on page 53).

The simplest and most accessible method of printing the summary report is to use the buttons that are provided in the Summary page.

1. To do this, just click on the **Print Summary Report** button:
   This will open a standard Print dialog, which you can use to set up your print job:



2. Click **OK** to print out the Summary report.

Go to the next chapter “Printing Reports” on page 53 for further information on printing reports.

Note: If you wish to save your work at this point, skip ahead to “Saving files” on page 71.

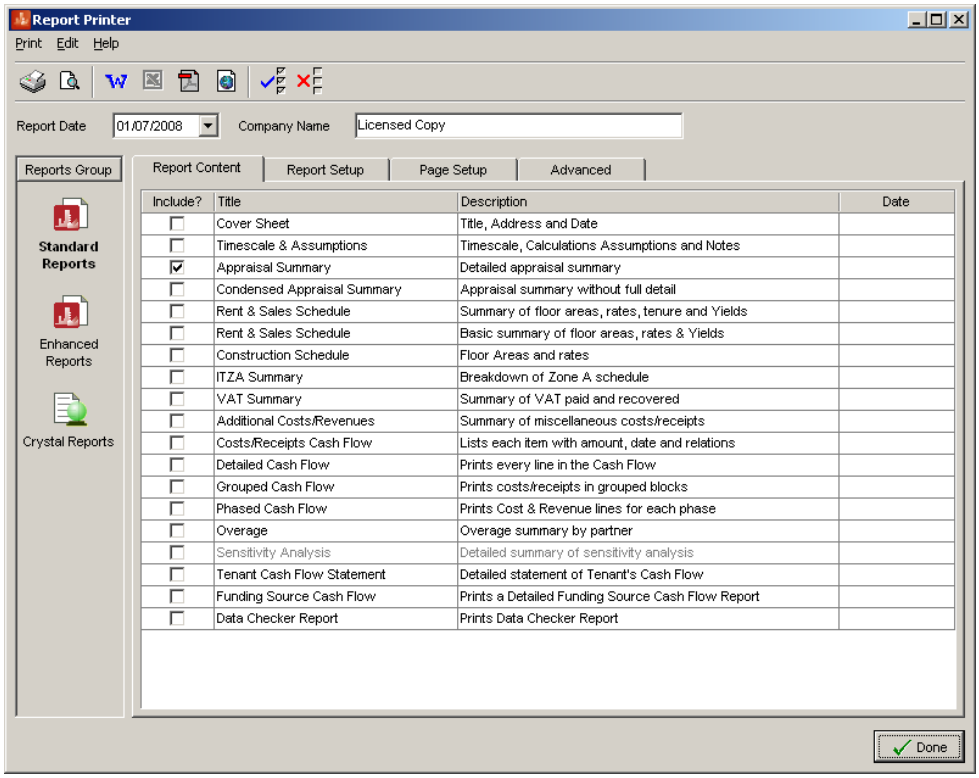
CHAPTER 10

Printing Reports

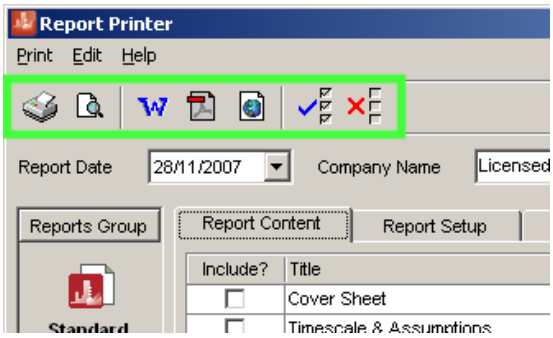
After you have entered all your data and settings, you may wish to print out some reports. To do this, you will need to use the Report Printer feature.

Using the report printer

Use the **File | Reports...** menu option to open the Report Printer window:

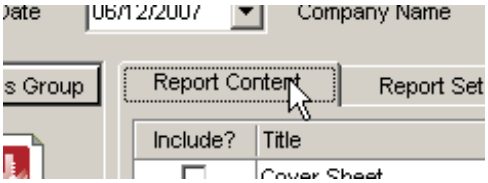


In this window, there are several buttons (shown outlined in green in the following picture) that you can use for printing, previewing or exporting the reports you choose:



We will cover the use of some of these buttons in this chapter.

Click on the Report Content tab:



Selecting reports

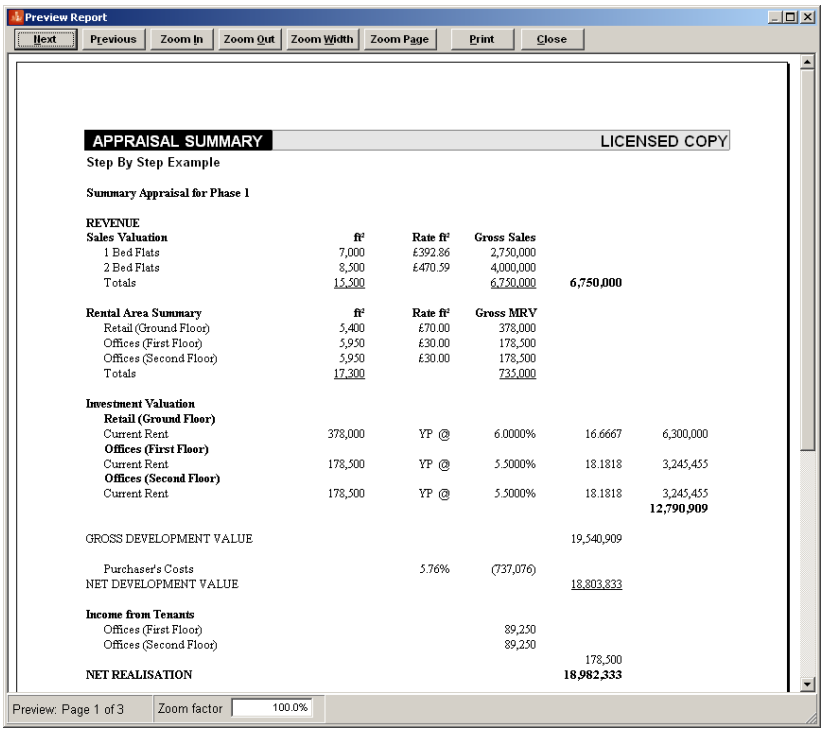
You have the choice of checking any of the check boxes to print any of the ready-made reports listed here.

For now, we will just print out the **Appraisal Summary** and the **Grouped Cash Flow** reports, plus a cover page.

Check the **Appraisal Summary**, **Grouped Cash Flow** and **Cover Sheet** check boxes.

Previewing the reports

1. To look at a preview of the reports, click on the **Preview Report** button:
   This opens a preview window:



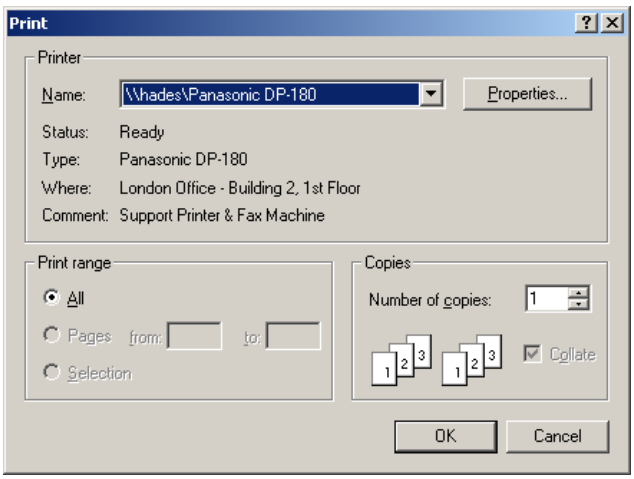
   You can, if you choose, print out these reports from within the preview window by clicking on the **Print** button. For now, however, we will not do this.

2. Click on the **Close** button to close down the preview window.

You will be returned back to the Report Printer window.

Printing reports

1. Click on the **Print Report** button:
   This opens a standard Print dialog, with which you can specify the settings of your print job:



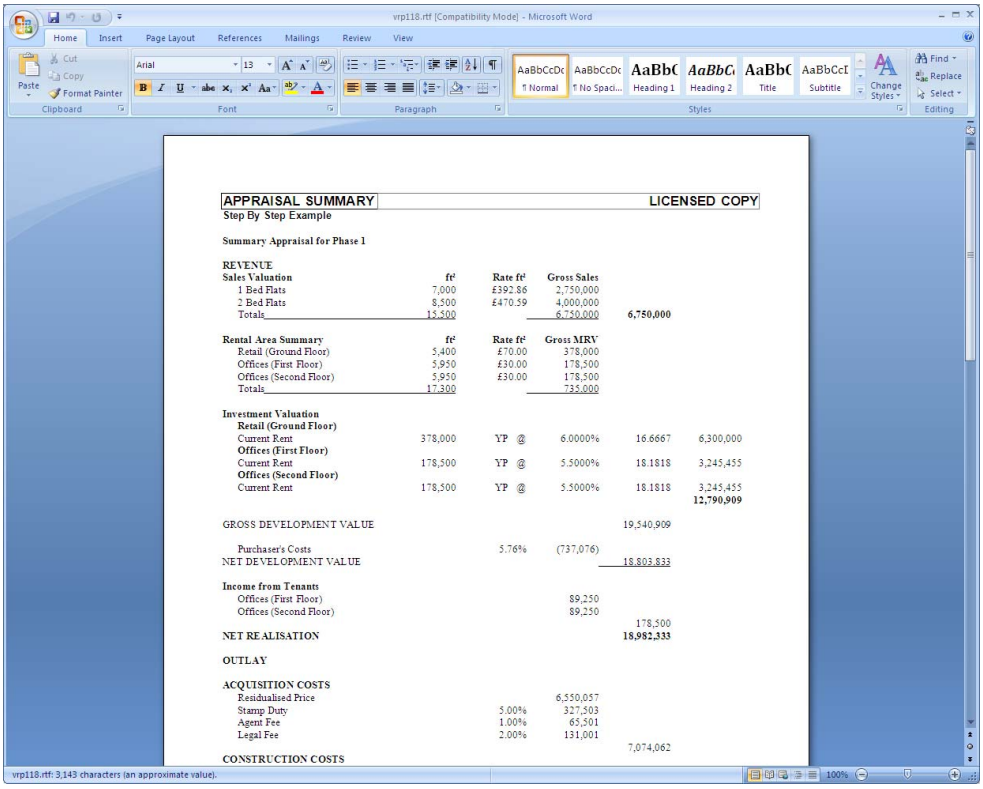
2. Click **OK** to print out the reports.

Exporting the reports

The buttons at the top of the window allow you to export the reports in several different formats.

For this walkthrough, we will just show you how to export to a Microsoft Word document.

1. Click on the **Export to Wordprocessor** button:
   This will create your reports in your wordprocessor window:



2. Save the document under the name "`Step by Step.doc`" and close down the wordprocessor.

Click **Done** to close down the Report Printer window.

Note: Please see "Appendix" on page 75 for a full listing of the appraisal summary report, so you can check your work.

You can proceed to the next chapter, "Sensitivity Analysis" on page 57.

CHAPTER 11

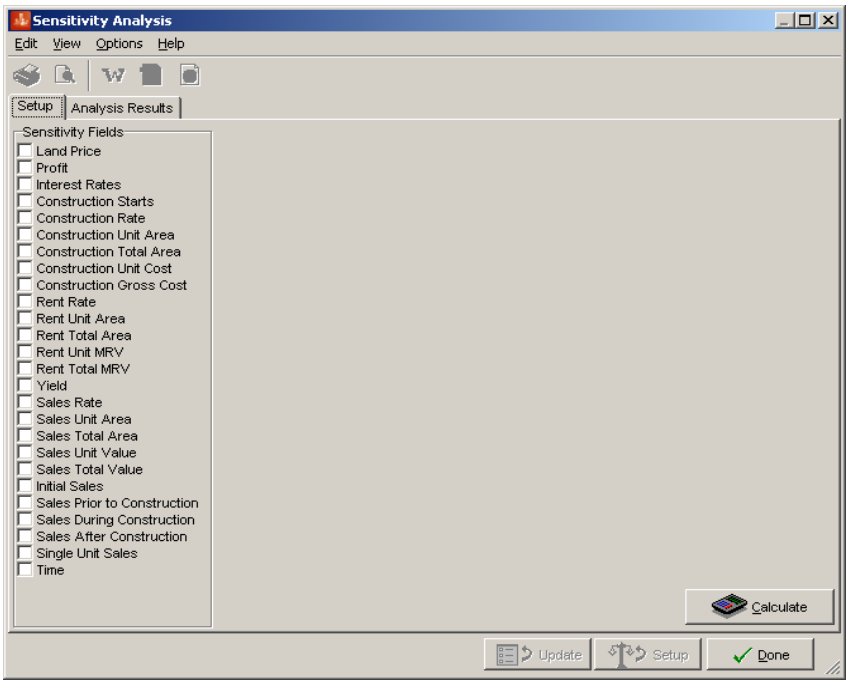
Sensitivity Analysis

In this section, we will walk you through the basic use of the Sensitivity Analysis feature, where you can create “what if” scenarios that will allow you to fine-tune your data.

To open the Sensitivity Analysis window, click on the **Sensitivity Analysis** button:

Alternatively, you can use the **Tools | Sensitivity Analysis...** menu option.

This opens the Sensitivity Analysis window:



Three-way sensitivity

In our simple example, you will specify three fields upon which the analysis will be based (this is called “three-way sensitivity”).

Field 1 - Construction Rate

1. Check the **Construction Rate** check box. This will display a list of items that you can include in the sensitivity analysis.
   Check all the **Include?** check boxes.You can use the **Include All** button to do this:
2. In the **Step Type** drop-down, select the “% of original” option.
3. In the **Step Amount** field, type in “5”.

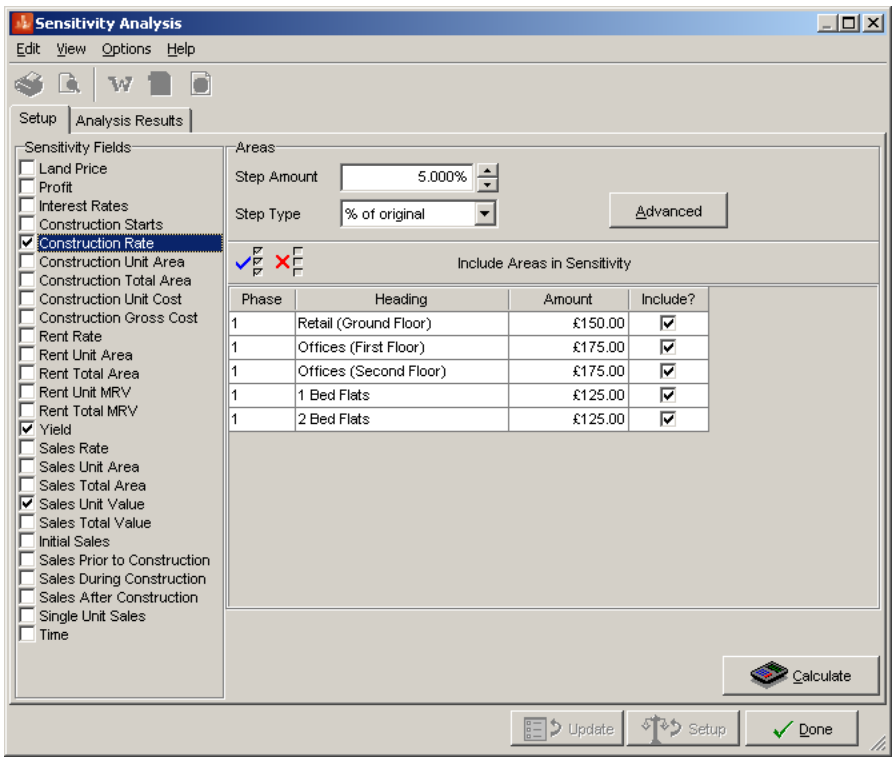
Field 2 - Yield

1. Check the **Yield** check box. This will display a list of items that you can include in the sensitivity analysis. Check all the **Include?** check boxes.

2. In the **Step Type** drop-down, select the “Fixed Amount” option.
3. In the **Step Amount** field, type in “0.25”.

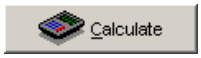
Field 3 - Sales Unit Value

1. Check the **Sales Unit Value** check box. This will display a list of items that you can include in the sensitivity analysis. Check all the **Include?** check boxes.
2. In the **Step Type** drop-down, select the “% of original” option.
3. In the **Step Amount** field, type in “10”.

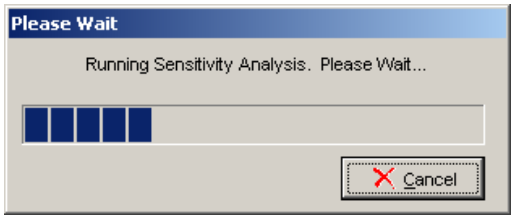


You are now ready to calculate the analysis and view your results.

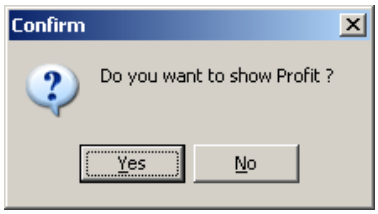
Calculating your analysis results

1. To calculate the analysis results, click on the **Calculate** button 

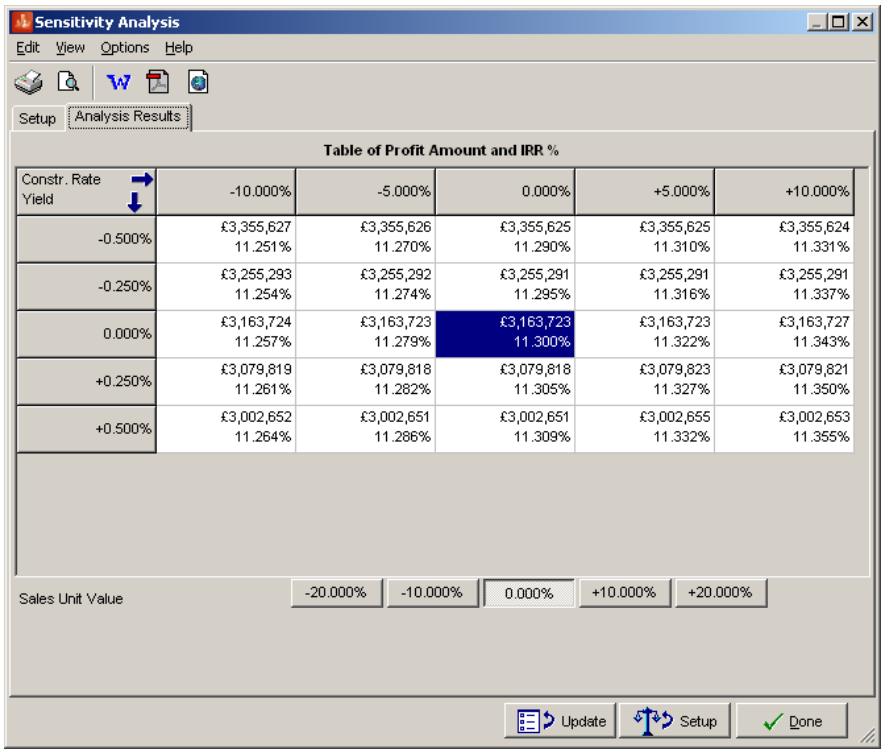
or the Analysis Results tab.
While the analysis is being calculated, a status bar will be displayed:



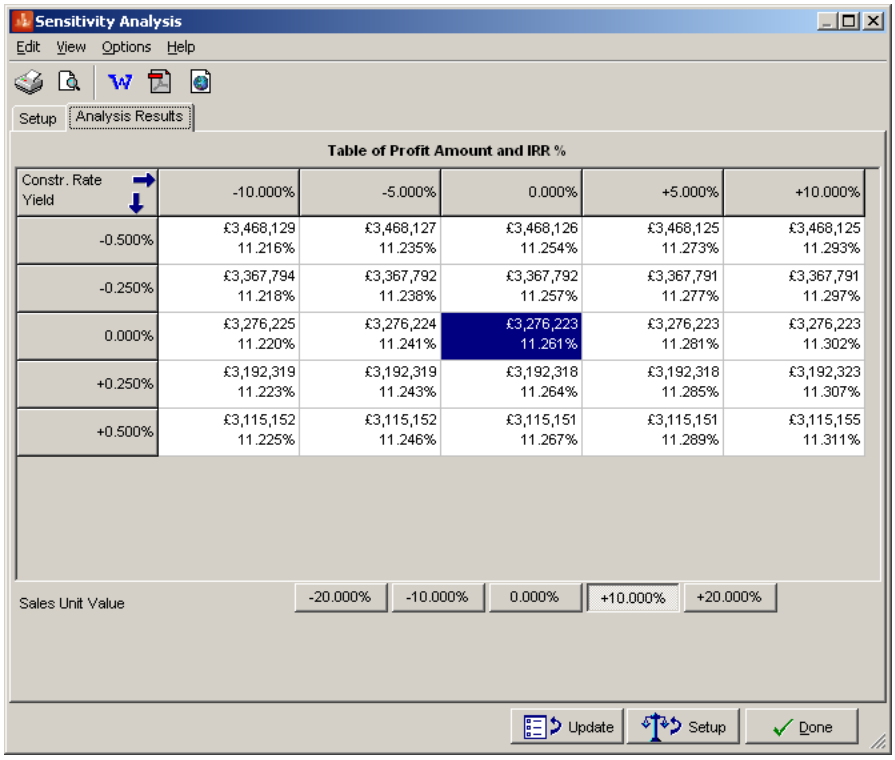
You may see a pop-up message displayed:



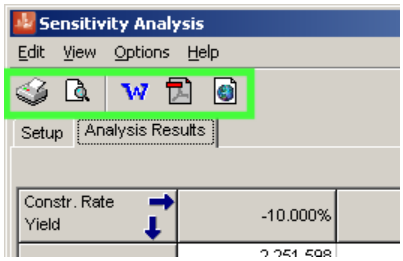
2. Click **OK** to proceed.
   After calculation, the Analysis Results page will open, containing the grid of analysis results:



3. You can use the **Sales Unit Value** buttons near the bottom of the window to do "what if" analyses. Click on the **+10.000%** button to see how this changes the calculated results:



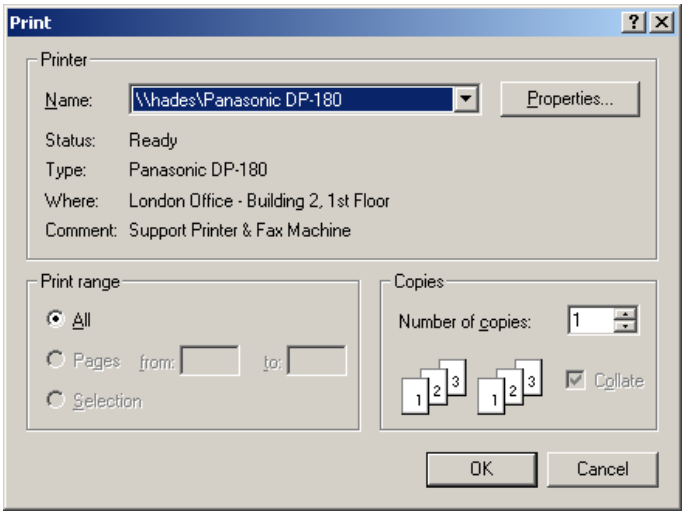
Now try clicking on the other buttons to see the changes.
You will note that the buttons at the top of the window will become enabled when this page is displayed, so you can use them for printing or exporting the analysis:



4. From the **View** menu, select the results you wish to see - for example, “Land Price” and “IRR%”. This will change the items you see displayed against each other in the Sensitivity grid.

Printing the sensitivity analysis

1. To print out the analysis you’ve just calculated, click on the **Print Analysis** button:
This opens a standard Print dialog:



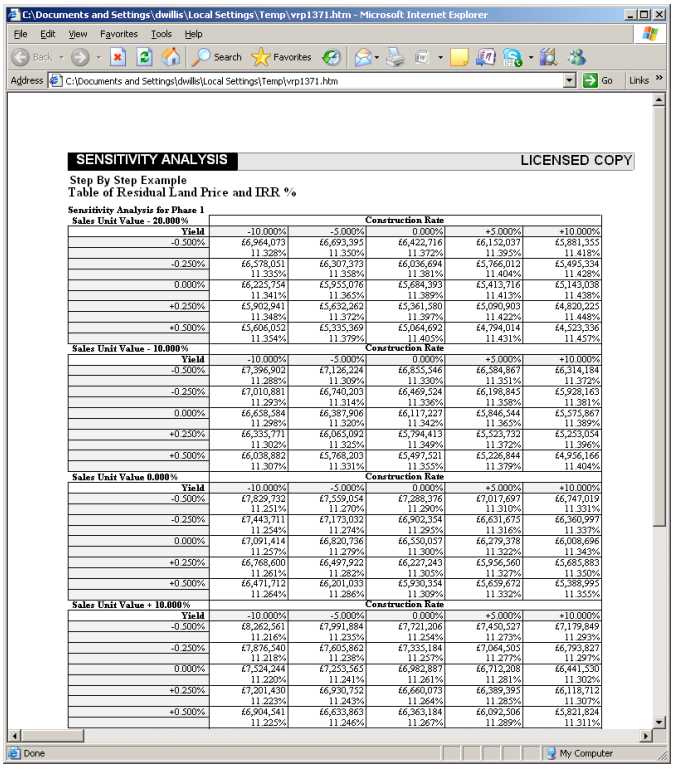
2. Click **OK** to print out the sensitivity analysis.

Exporting the sensitivity analysis

For this example, we'll show you how to export the analysis report as an HTML file and as a PDF.

Saving as HTML

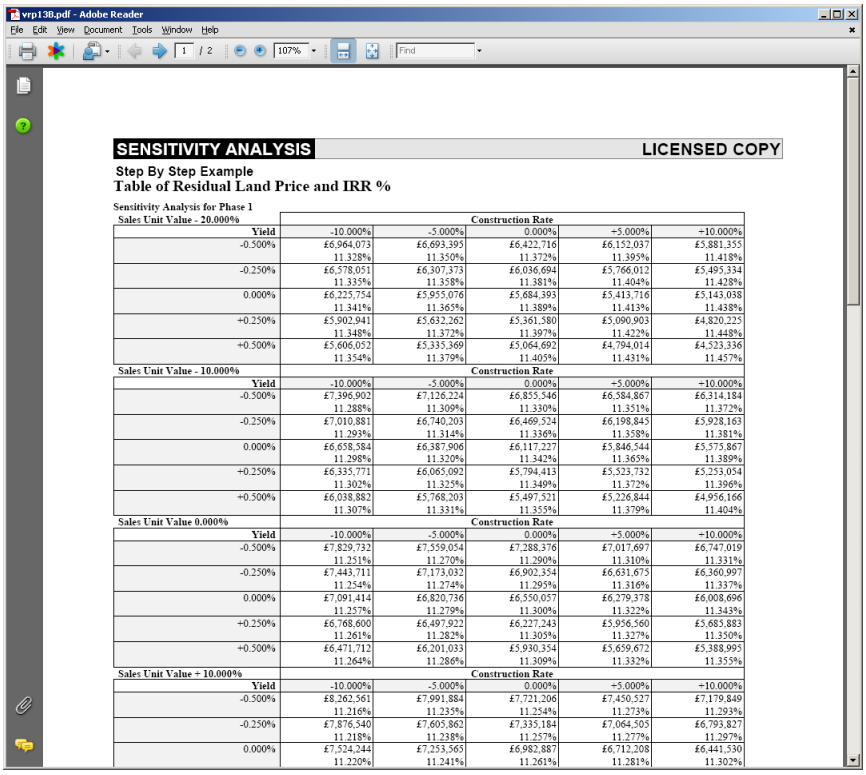
1. Click on the **Print to Web Page (HTML)** button:
   This will open your Web browser, displaying the sensitivity analysis:



2. You can save this file using the **File | Save As...** menu option. Close down the browser when you have finished.

Saving as PDF

1. To export the analysis as a PDF file, click on the **Print to Adobe Acrobat PDF** button:
   This displays the report in the Acrobat Reader:



vrp13B.pdf - Adobe Reader

File Edit View Document Tools Window Help

SENSITIVITY ANALYSIS LICENSED COPY

Step By Step Example

Table of Residual Land Price and IRR %

Sensitivity Analysis for Phase 1

Sales Unit Value - 20.000%	Construction Rate				
Yield	-10.000%	-5.000%	0.000%	+5.000%	+10.000%
-0.500%	£6,964,073 11.328%	£6,693,395 11.350%	£6,422,716 11.372%	£6,152,037 11.395%	£5,881,355 11.418%
-0.250%	£6,578,051 11.335%	£6,307,373 11.358%	£6,036,694 11.381%	£5,766,012 11.404%	£5,495,334 11.428%
0.000%	£6,225,754 11.341%	£5,955,076 11.365%	£5,684,393 11.389%	£5,413,716 11.413%	£5,143,038 11.438%
+0.250%	£5,902,941 11.348%	£5,632,262 11.372%	£5,361,580 11.397%	£5,090,903 11.422%	£4,820,225 11.448%
+0.500%	£5,606,052 11.354%	£5,335,369 11.379%	£5,064,692 11.405%	£4,794,014 11.431%	£4,523,336 11.457%
Sales Unit Value - 10.000%	**Construction Rate**				
Yield	-10.000%	-5.000%	0.000%	+5.000%	+10.000%
-0.500%	£7,396,902 11.288%	£7,126,224 11.309%	£6,855,546 11.330%	£6,584,867 11.351%	£6,314,184 11.372%
-0.250%	£7,010,881 11.293%	£6,740,203 11.314%	£6,469,524 11.336%	£6,198,845 11.358%	£5,928,163 11.381%
0.000%	£6,658,584 11.298%	£6,387,906 11.320%	£6,117,227 11.342%	£5,846,544 11.365%	£5,575,867 11.389%
+0.250%	£6,335,771 11.302%	£6,065,092 11.325%	£5,794,413 11.349%	£5,523,732 11.372%	£5,253,054 11.396%
+0.500%	£6,038,882 11.307%	£5,768,203 11.331%	£5,497,521 11.355%	£5,226,844 11.379%	£4,956,166 11.404%
Sales Unit Value 0.000%	**Construction Rate**				
Yield	-10.000%	-5.000%	0.000%	+5.000%	+10.000%
-0.500%	£7,829,732 11.251%	£7,559,054 11.270%	£7,288,376 11.290%	£7,017,697 11.310%	£6,747,019 11.331%
-0.250%	£7,443,711 11.254%	£7,173,032 11.274%	£6,902,354 11.295%	£6,631,675 11.316%	£6,360,997 11.337%
0.000%	£7,091,414 11.257%	£6,820,736 11.279%	£6,550,057 11.300%	£6,279,378 11.322%	£6,008,696 11.343%
+0.250%	£6,768,600 11.261%	£6,497,922 11.282%	£6,227,243 11.305%	£5,956,560 11.327%	£5,685,883 11.350%
+0.500%	£6,471,712 11.264%	£6,201,033 11.286%	£5,930,354 11.309%	£5,659,672 11.332%	£5,388,995 11.355%
Sales Unit Value + 10.000%	**Construction Rate**				
Yield	-10.000%	-5.000%	0.000%	+5.000%	+10.000%
-0.500%	£8,262,561 11.216%	£7,991,884 11.235%	£7,721,206 11.254%	£7,450,527 11.273%	£7,179,849 11.293%
-0.250%	£7,876,540 11.218%	£7,605,862 11.238%	£7,335,184 11.257%	£7,064,505 11.277%	£6,793,827 11.297%
0.000%	£7,524,244 11.220%	£7,253,565 11.241%	£6,982,887 11.261%	£6,712,208 11.281%	£6,441,530 11.302%

2. You can save this PDF by clicking on the **Save a Copy** button. Close down the Acrobat Reader when you have finished.
3. In the Sensitivity Analysis window, click on **Done** to close down the window.

You can now proceed to the next chapter (“Multi-Phasing” on page 63), which will demonstrate the effects of adding further phases to the project.

Note: If you wish to save your work at this point, skip ahead to “Saving files” on page 71.

CHAPTER 12

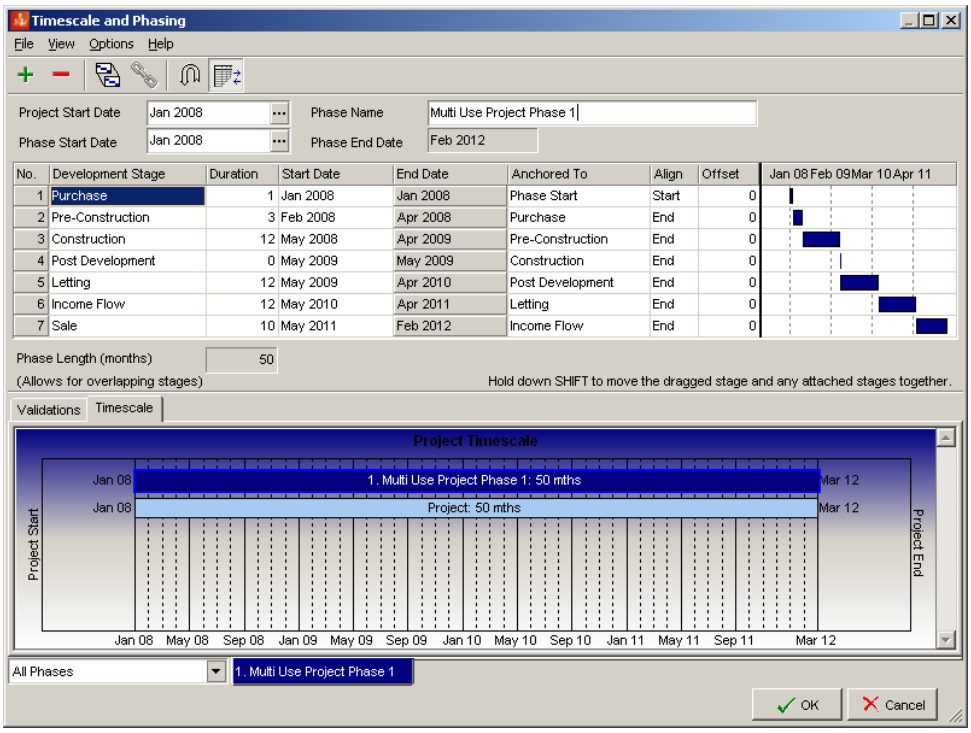
Multi-Phasing

Until now, this example has used a single phase to demonstrate various procedures. This chapter will illustrate the effect of adding multiple phases.

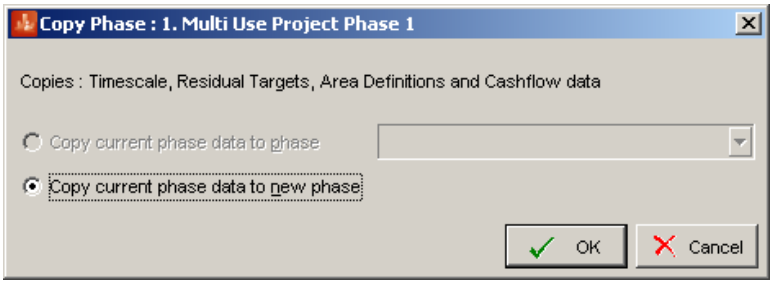
Adding another phase

For the purposes of this walkthrough (and to keep it simple), we will add another phase by copying the current one (normally, you would add a phase by clicking on the **Add Phase** button and then filling in the details).

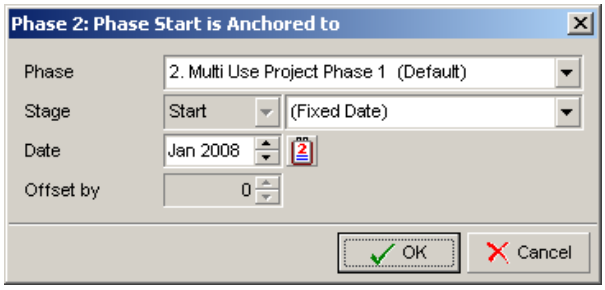
1. Click on the **Timescale and Phasing** button:
   This opens the Timescale and Phasing window:



2. To copy the current phase, click on the **Copy Phase** button:

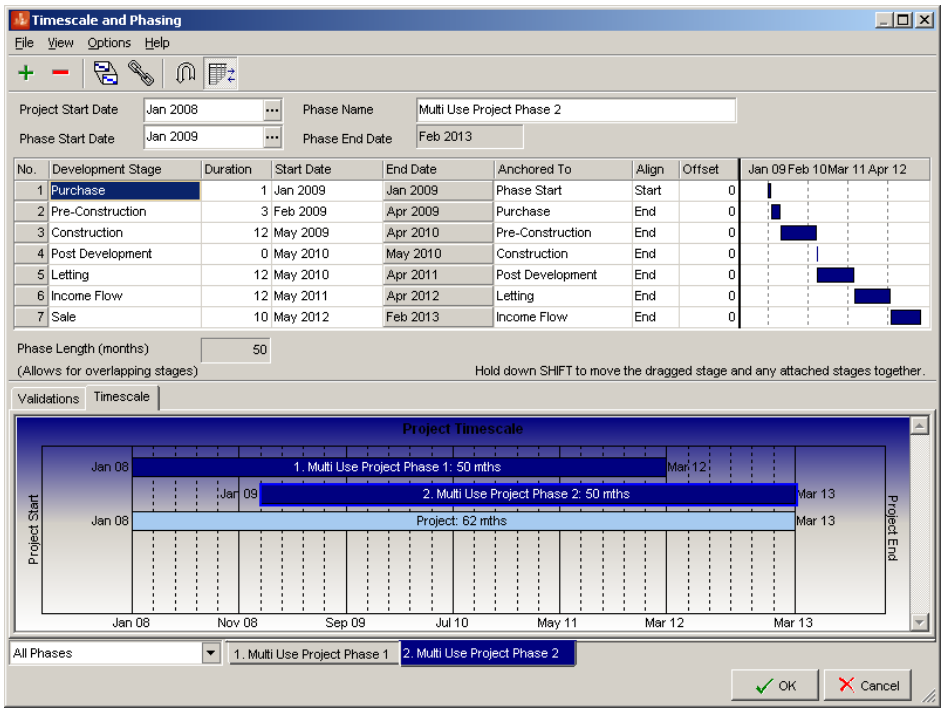


3. Click **OK** and **Yes** to accept the settings and create the new phase.
4. In the **Phase Name** field at the top of the window, type in “Multi Use Project Phase 2”. This will rename the phase tab at the bottom of the window.
5. We will start the new phase a year after the first one.
   Click on the **Phase Start Date** control to open the Phase Start Anchor dialog:

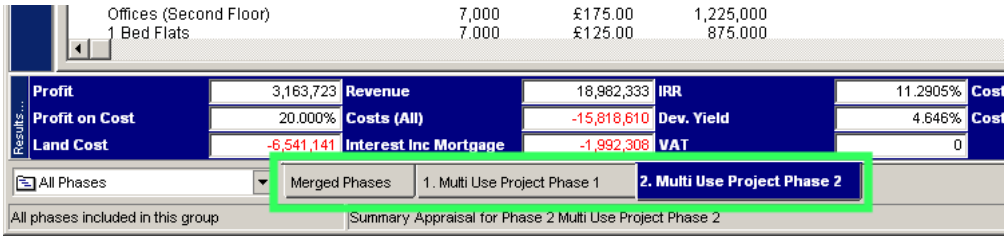


6. Click on the date picker button in the **Date** section to open the date picker:

7. Click on the right arrow to move the calendar forward by one year, and click on January 2009.
8. Click **OK**. You should see something like the following:



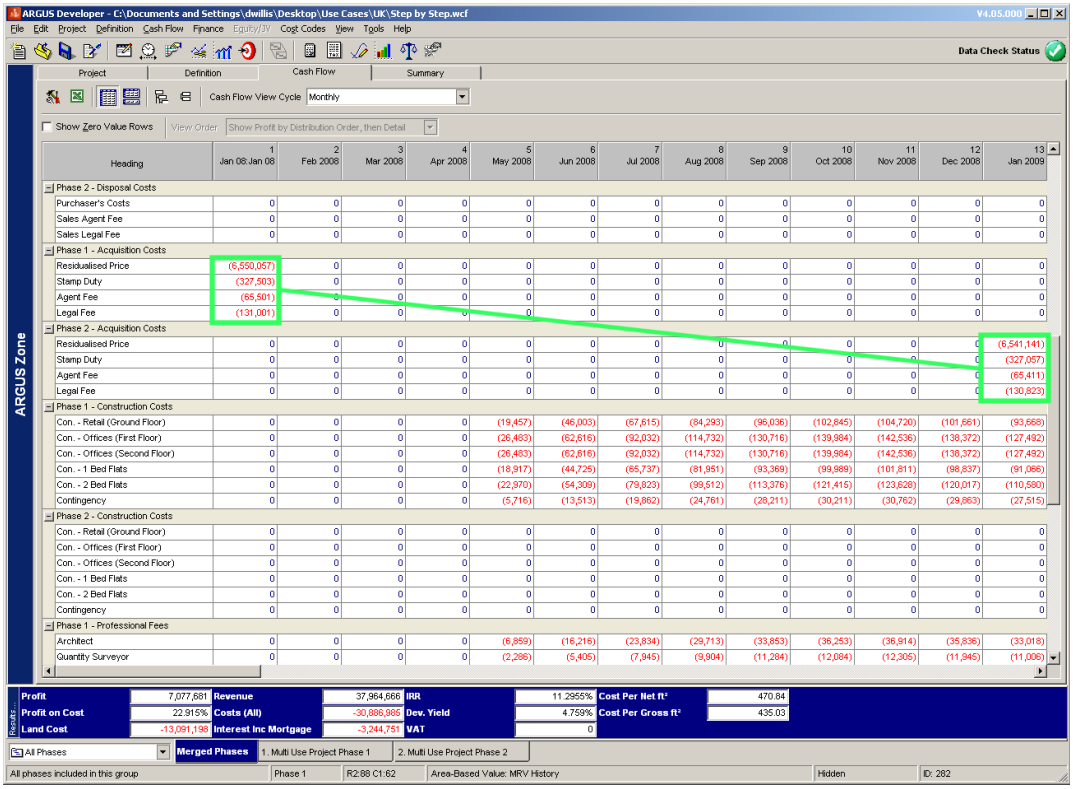
9. Click **OK** to exit from the Timescale and Phasing window.
   You will note that the number of phase tabs shown in the main window will change:



   In addition to the two phase tabs, an extra tab ("Merged Phases") will be displayed. This tab shows the total calculated figures of all the phases added together.

10. Click on the Merged Phases tab to look at the figures - note the change in the Results Bar.

11. Now click on the Cash Flow tab - note how all the section headings in the Cash Flow are now prefixed by "Phase 1" and "Phase 2" to indicate which phase they belong to.
    At the moment, the land costs are in two separate amounts, spaced a year apart (outlined in green in the following picture):

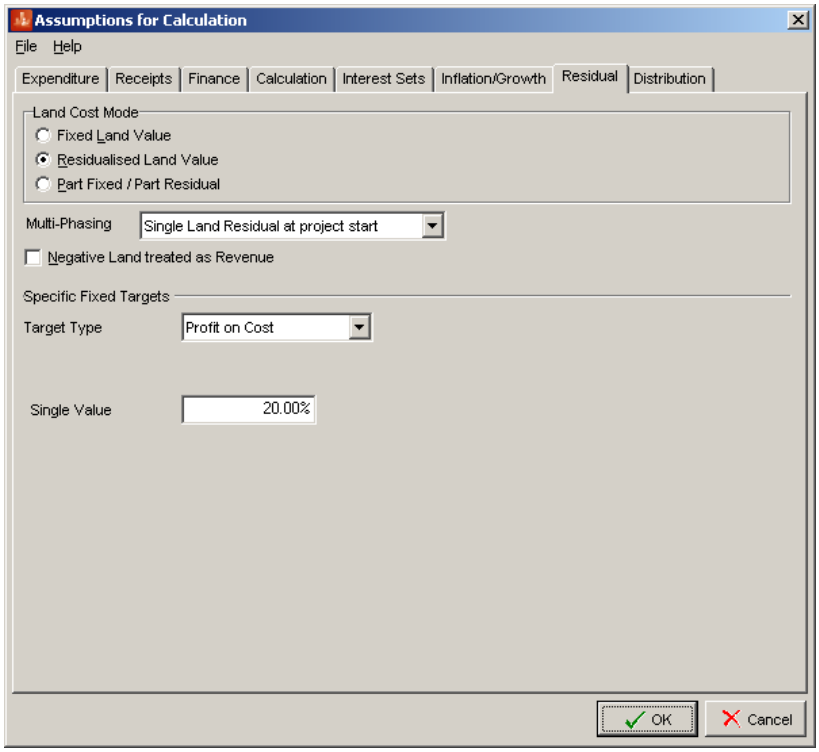


In the next procedure, we will show you how those separate land costs can each be combined together into a single amount.

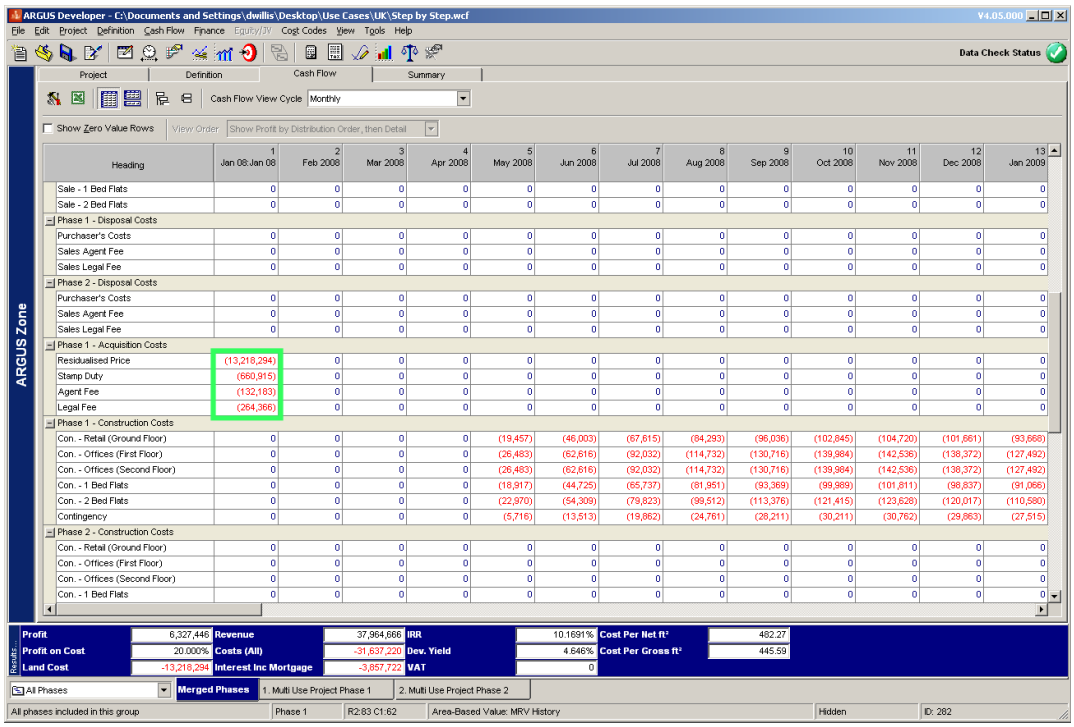
Setting the residual target

1. Click on the **Residual Target Mode** button:

2. You will note that the **Multi-Phasing** control is now active. Select the “Single Land Residual at project start” option from the **Multi-Phasing** drop-down:



3. Select “Profit on Cost” from the **Target Type** drop-down.
4. In the **Single Value** field, type in “20”.
5. Click **OK** to accept your settings. You will notice that the two blocks of land costs described earlier have now been brought together into one single amount (outlined in green below).



You will note that the **Profit on Cost** figure (shown in the Results Bar) has changed to reflect the rate you specified in the Residual tab earlier.

Please proceed to the next chapter, “Rerun the sensitivity analysis” on page 69.

Note: If you wish to save your work at this point, skip ahead to “Saving files” on page 71.

CHAPTER 13

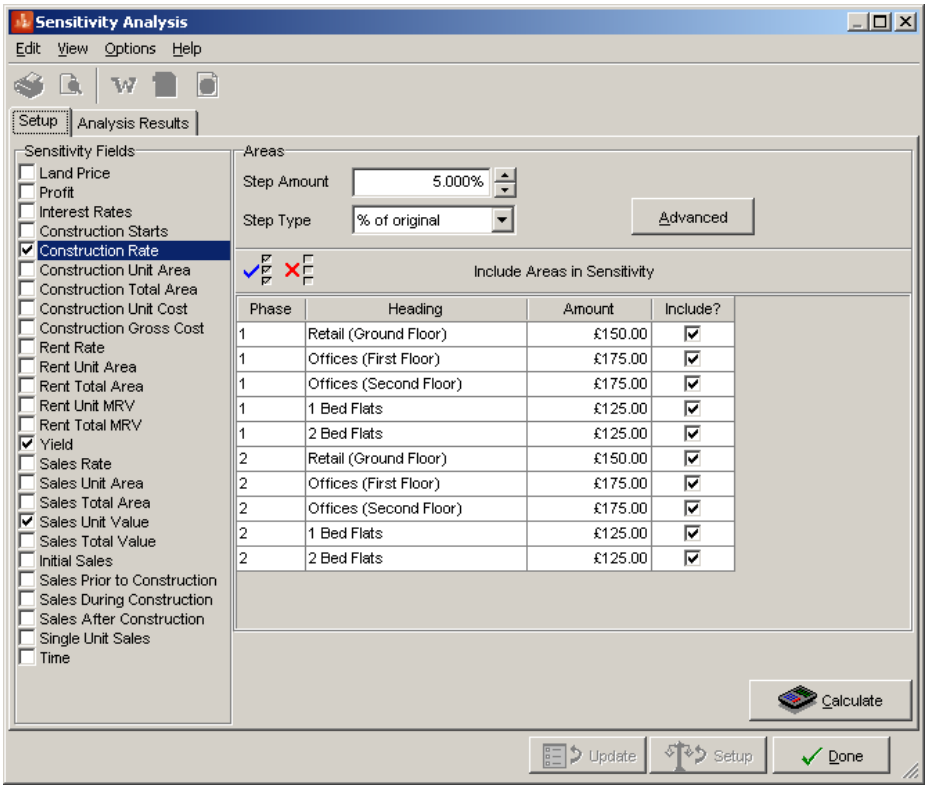
Rerun the sensitivity analysis

You will now need to perform a new sensitivity analysis, because the timing of the Acquisition Costs has changed, and you have added a new phase.

Select the **Merged Phases** tab before you begin.

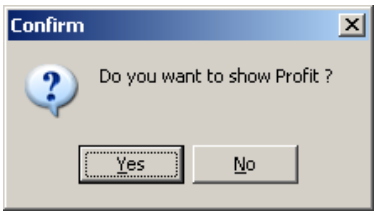
Follow the procedure as described in "Sensitivity Analysis" on page 57 to open the Sensitivity Analysis window and calculate the analysis results.

You will note that items will be listed for phase 2, and will be automatically selected for inclusion:



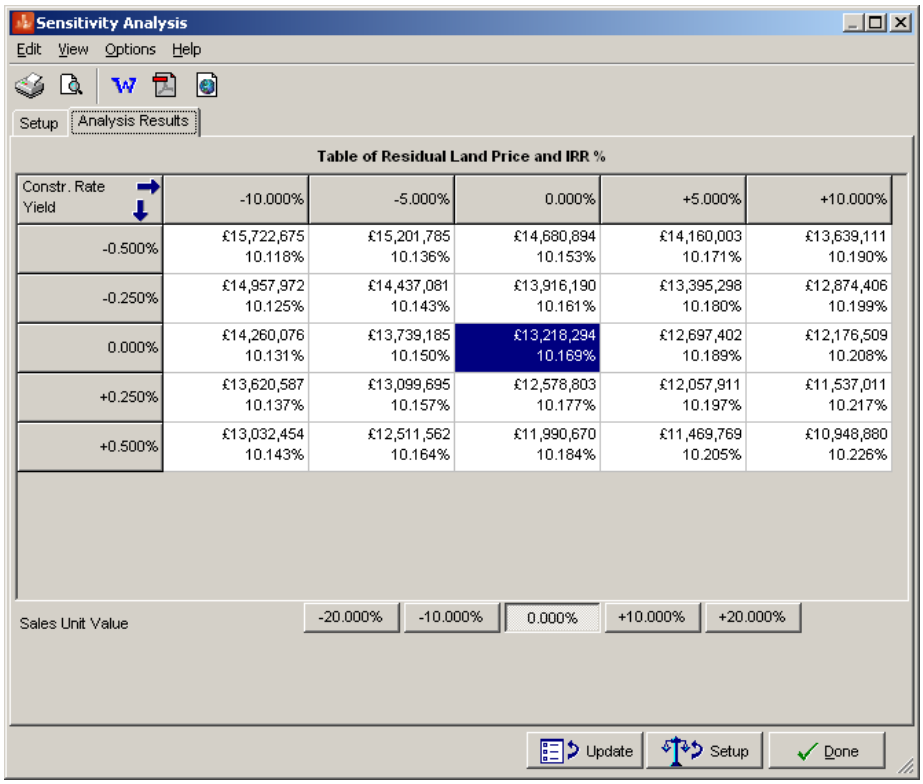
Click on the **Calculate** button to recalculate.

You may see a pop-up message displayed:



Click **Yes** to show Profit.

When you recalculate the results, you can use the **View | Land Price** menu option to display the Residual Land Price for the merged phases:



Preview a copy of the analysis report, showing the figures for the merged phases.

Click on **Done** to close down the Sensitivity Analysis window.

You can now proceed to the next chapter, which will show you how to save the file you have created in this walkthrough.

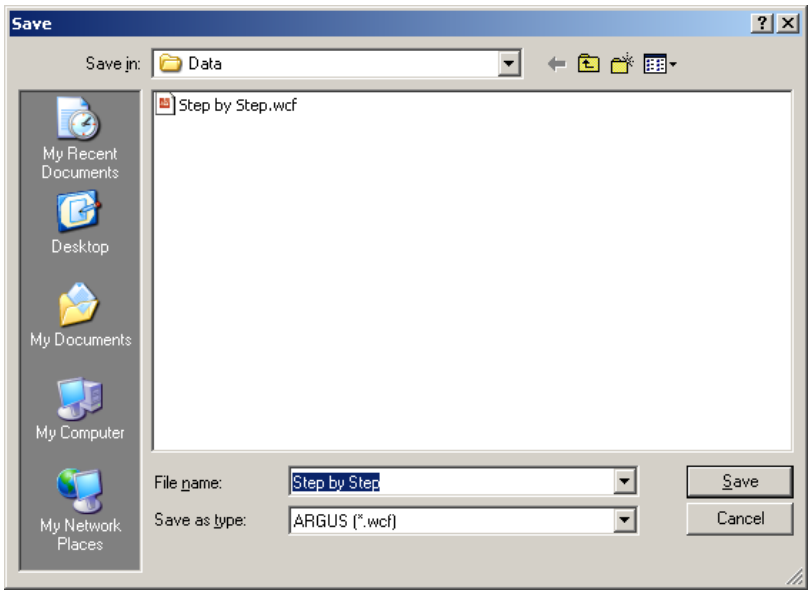
CHAPTER 14

Administration

In this final chapter, we will take you through three of the main “administration” tasks - saving your work, creating templates and emailing files. These are typically the kind of tasks you will perform at the end of a working session.

Saving files

To save the file you created in this walkthrough, use the **File | Save As...** menu option to open a standard Save dialog:



Select the “ARGUS (*.wcf)” option from the **Save as type** drop-down list.

In the **File name** field, enter the name “Step by Step” and click on the **Save** button.

After this, if at any time you wish to come back to this project and save any new changes you have made, you can use the **File | Save** menu option to save the file.

Saving templates

You can avoid the routine, repetitive work of creating new appraisals if you base them on templates designed for the types of development appraisal you create most often.

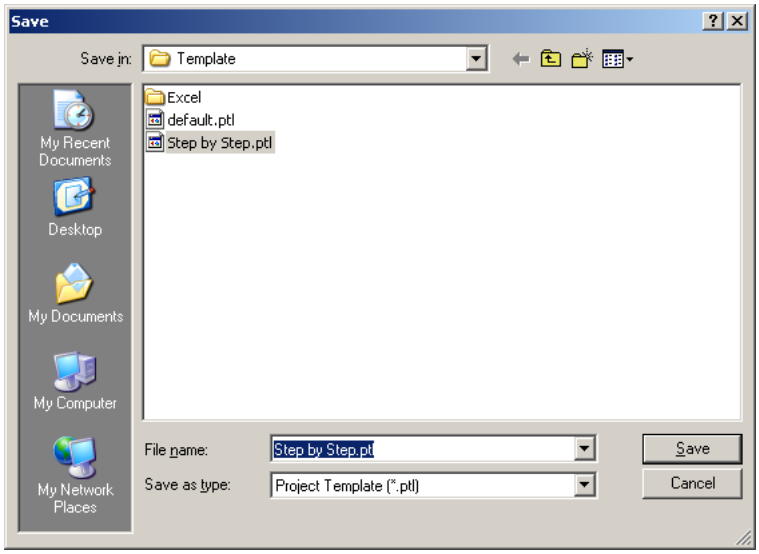
A template is an outline for the type of development, its costs, fees, yields and calculation options.

By saving and using a template, you can ensure that you will start with your company default assumptions and fees.

To save a template file, start with a blank project and change the base assumptions, using the Assumptions for Calculation window (see “Basic Preparation” on page 3). It is recommended that

you do not include data such as phases and costs in your template file. You will be able to use this template file as the starting point for each new project you build.

Use the **File | Save As...** menu option to open a standard Save dialog:



This will change the “save in” location to the default directory where the project templates are stored.

Select the “Project Template (*.ptl)” option from the **Save as type** drop-down list.

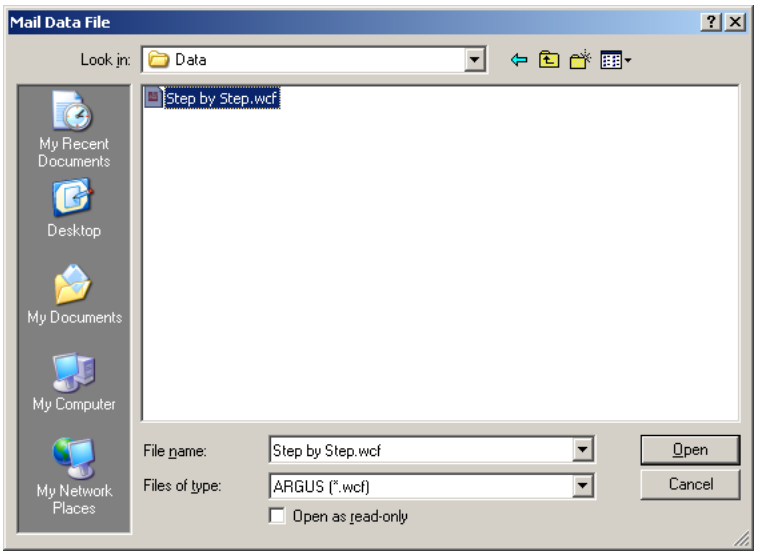
In the **File name** field, enter the name “Step by Step” and click on the **Save** button.

After this, whenever you need to set up a new project with settings already entered, you can select the template from the Start New Project form (to open this form, use the **File | New (Template)** menu option).

Emailing files

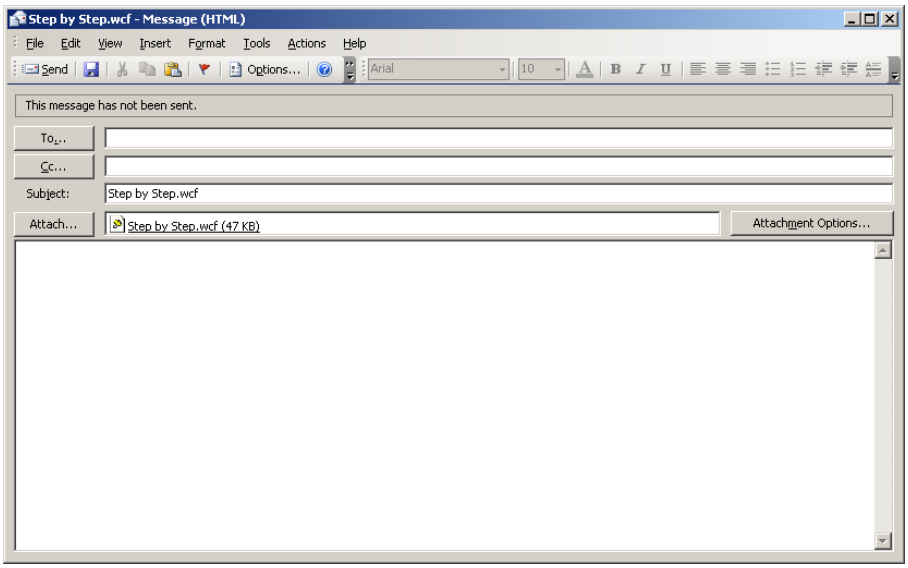
Occasionally, you may need to email ARGUS Developer data files to colleagues or to ARGUS Support when trying to resolve a query. To enable you to do this, ARGUS Developer provides a feature that makes this easy.

To email a data file, use the **File | Mail Data File...** menu option. This opens a selection window, so you can browse for the file you wish to send:



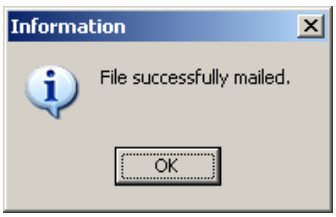
Select the ARGUS Developer file and click on the **Open** button.

This opens an email window, and automatically attaches the file:



All you have to do is to type in your message and enter an email address. You can test this out now by entering your own email address or that of a colleague.

Click on the **Send** button to send the email. You should get an acknowledgement message, showing that the email has been sent successfully:



CHAPTER 15

Appendix

This appendix gives a complete listing of the appraisal summary report and grouped cash flow for this sample project, allowing you to compare your own results.

APPRAISAL SUMMARY LICENSED COPY

Step By Step Example

Summary Appraisal for Merged Phases 1 2

REVENUE					
Sales Valuation	**ft²**	**Rate ft²**	**Gross Sales**		
1 Bed Flats	7,000	£392.86	2,750,000		
2 Bed Flats	8,500	£470.59	4,000,000		
1 Bed Flats	7,000	£392.86	2,750,000		
2 Bed Flats	8,500	£470.59	4,000,000		
Totals	31,000		13,500,000	**13,500,000**	
Rental Area Summary	**ft²**	**Rate ft²**	**Gross MRV**		
Retail (Ground Floor)	5,400	£70.00	378,000		
Offices (First Floor)	5,950	£30.00	178,500		
Offices (Second Floor)	5,950	£30.00	178,500		
Retail (Ground Floor)	5,400	£70.00	378,000		
Offices (First Floor)	5,950	£30.00	178,500		
Offices (Second Floor)	5,950	£30.00	178,500		
Totals	34,600		1,470,000		
Investment Valuation					
Retail (Ground Floor)					
Current Rent	378,000	YP @	6.0000%	16.6667	6,300,000
Offices (First Floor)					
Current Rent	178,500	YP @	5.5000%	18.1818	3,245,455
Offices (Second Floor)					
Current Rent	178,500	YP @	5.5000%	18.1818	3,245,455
Retail (Ground Floor)					
Current Rent	378,000	YP @	6.0000%	16.6667	6,300,000
Offices (First Floor)					
Current Rent	178,500	YP @	5.5000%	18.1818	3,245,455
Offices (Second Floor)					
Current Rent	178,500	YP @	5.5000%	18.1818	3,245,455
					25,581,818
GROSS DEVELOPMENT VALUE				39,081,818	
Purchaser's Costs		5.76%	(1,474,152)		
NET DEVELOPMENT VALUE				37,607,666	
Income from Tenants					
Offices (First Floor)			89,250		
Offices (Second Floor)			89,250		
Offices (First Floor)			89,250		
Offices (Second Floor)			89,250		
				357,000	
NET REALISATION				**37,964,666**	
OUTLAY					
ACQUISITION COSTS					

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APPRAISAL SUMMARY LICENSED COPY

Step By Step Example

Residualised Price			13,218,294	
Stamp Duty		5.00%	660,915	
Agent Fee		1.00%	132,183	
Legal Fee		2.00%	264,366	
				14,275,757
CONSTRUCTION COSTS				
Construction	**ft²**	**Rate ft²**	**Cost**	
Retail (Ground Floor)	6,000	£150.00	900,000	
Offices (First Floor)	7,000	£175.00	1,225,000	
Offices (Second Floor)	7,000	£175.00	1,225,000	
Retail (Ground Floor)	6,000	£150.00	900,000	
Offices (First Floor)	7,000	£175.00	1,225,000	
Offices (Second Floor)	7,000	£175.00	1,225,000	
1 Bed Flats	7,000	£125.00	875,000	
2 Bed Flats	8,500	£125.00	1,062,500	
1 Bed Flats	7,000	£125.00	875,000	
2 Bed Flats	8,500	£125.00	1,062,500	
Totals	71,000		10,575,000	**10,575,000**
Contingency		5.00%	528,750	
				528,750
PROFESSIONAL FEES				
Architect		6.00%	634,500	
Quantity Surveyor		2.00%	211,500	
Structural Engineer		1.00%	105,750	
Mech./Elec.Engineer		2.00%	211,500	
Project Manager		1.00%	105,750	
C.D. Manager		0.50%	52,875	
				1,321,875
MARKETING & LETTING				
Marketing			200,000	
Letting Agent Fee		15.00%	220,500	
Letting Legal Fee		5.00%	73,500	
				494,000
DISPOSAL FEES				
Sales Agent Fee		1.00%	376,077	
Sales Legal Fee		0.50%	188,038	
				564,115
Interest and Fees not Included in Project Costs				
Interest paid to Debt Sources:				
Debt (7.000%)		3,857,722		
Total Interest paid to Debt Sources:			3,857,722	
Total Interest Paid			3,857,722	
Debt Financing Fees				
Debt - Bank Fees (Single)		20,000		
Total Debt Financing Fees			20,000	
Total Interest and Fees not Included in Project Costs				**3,877,722**

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APPRAISAL SUMMARY LICENSED COPY

Step By Step Example

TOTAL COSTS			**31,637,220**
PROFIT			
Equity			
Residual Percentage (60.00%)	3,796,468		
		3,796,468	
Equity 2			
Residual Percentage (40.00%)	2,530,979		
		2,530,979	
			6,327,446

Performance Measures	
Profit on Cost%	20.00%
Profit on GDV%	16.19%
Profit on NDV%	16.82%
Development Yield% (on Rent)	4.65%
Equivalent Yield% (Nominal)	5.75%
Equivalent Yield% (True)	5.75%
Gross Initial Yield%	5.75%
Net Initial Yield%	5.75%
Ungeared IRR%	10.17%
Geared IRR% (without Interest)	10.17%
Equity IRR% (without Interest)	13.56%
Rent Cover	4 yrs 4 mths

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GROUPED CASH FLOW LICENSED COPY

Step By Step Example

Grouped Cash Flow (Merged Phases) **Page A 1**

	001:Jan 2008	002:Feb 2008	003:Mar 2008	004:Apr 2008
MonthlyB/F	0	(14,295,757)	(14,330,453)	(14,365,352)
Land Purchase				
Residualised Price	(13,218,294)	0	0	0
Stamp Duty	(660,915)	0	0	0
Agent Fee	(132,183)	0	0	0
Legal Fee	(264,366)	0	0	0
	(14,275,757)	**0**	**0**	**0**
Construction Costs				
Construction Cost	0	0	0	0
Contingency	0	0	0	0
	0	**0**	**0**	**0**
Professional Fees				
Architect	0	0	0	0
Quantity Surveyor	0	0	0	0
Structural Engineer	0	0	0	0
Mech./Elec.Engineer	0	0	0	0
Project Manager	0	0	0	0
C.D. Manager	0	0	0	0
	0	**0**	**0**	**0**
Other Cost				
Sales Agent Fee	0	0	0	0
Sales Legal Fee	0	0	0	0
	0	**0**	**0**	**0**
Marketing/Letting				
Marketing	0	0	0	0
Letting Agent Fee	0	0	0	0
Letting Legal Fee	0	0	0	0
	0	**0**	**0**	**0**
Capitalisation				
Unit Sales	0	0	0	0
Capitalised Rent	0	0	0	0
Purchaser's Costs	0	0	0	0
	0	**0**	**0**	**0**
Other Revenue				
Tenant Rent Flow	0	0	0	0
	0	**0**	**0**	**0**
Period Total Before Finance	**(14,275,757)**	**0**	**0**	**0**
Finance Costs (All Loans)	(20,000)	(34,696)	(34,899)	(35,102)
Period Total After Finance	**(14,295,757)**	**(34,696)**	**(34,899)**	**(35,102)**
Cumulative Total C/f Monthly	(14,295,757)	(14,330,453)	(14,365,352)	(14,400,454)

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ARGUS Developer Version: 4.05.000 Date: 01/07/2008

GROUPED CASH FLOW LICENSED COPY

Step By Step Example

Grouped Cash Flow (Merged Phases) **Page A 2**

005:May 2008	006:Jun 2008	007:Jul 2008	008:Aug 2008	009:Sep 2008	010:Oct 2008	011:Nov 2008
(14,400,454)	(14,570,077)	(14,923,939)	(15,429,056)	(16,052,246)	(16,760,138)	(17,519,164)
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**	**0**
(114,311)	(270,269)	(397,239)	(495,220)	(564,213)	(604,217)	(615,232)
(5,716)	(13,513)	(19,862)	(24,761)	(28,211)	(30,211)	(30,762)
(120,027)	**(283,783)**	**(417,101)**	**(519,981)**	**(592,423)**	**(634,428)**	**(645,994)**
(6,859)	(16,216)	(23,834)	(29,713)	(33,853)	(36,253)	(36,914)
(2,286)	(5,405)	(7,945)	(9,904)	(11,284)	(12,084)	(12,305)
(1,143)	(2,703)	(3,972)	(4,952)	(5,642)	(6,042)	(6,152)
(2,286)	(5,405)	(7,945)	(9,904)	(11,284)	(12,084)	(12,305)
(1,143)	(2,703)	(3,972)	(4,952)	(5,642)	(6,042)	(6,152)
(572)	(1,351)	(1,986)	(2,476)	(2,821)	(3,021)	(3,076)
(14,289)	**(33,784)**	**(49,655)**	**(61,902)**	**(70,527)**	**(75,527)**	**(76,904)**
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**	**0**
0	0	0	0	0	0	(8,333)
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**	**(8,333)**
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**	**0**
0	0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**	**0**
(134,316)	**(317,566)**	**(466,756)**	**(581,883)**	**(662,950)**	**(709,955)**	**(731,231)**
(35,307)	(36,296)	(38,361)	(41,307)	(44,942)	(49,072)	(53,499)
(169,623)	**(353,863)**	**(505,116)**	**(623,191)**	**(707,892)**	**(759,026)**	**(784,731)**
(14,570,077)	(14,923,939)	(15,429,056)	(16,052,246)	(16,760,138)	(17,519,164)	(18,303,895)

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GROUPED CASH FLOW LICENSED COPY

Step By Step Example

Grouped Cash Flow (Merged Phases) **Page A 3**

012:Dec 2008	013:Jan 2009	014:Feb 2009	015:Mar 2009	016:Apr 2009	017:May 2009	018:Jun 2009
(18,303,895)	(19,072,085)	(19,789,577)	(20,422,013)	(20,934,836)	(21,293,286)	(21,511,450)
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**	**0**
(597,259)	(550,298)	(474,348)	(369,410)	(235,483)	(114,311)	(270,269)
(29,863)	(27,515)	(23,717)	(18,470)	(11,774)	(5,716)	(13,513)
(627,122)	**(577,813)**	**(498,066)**	**(387,880)**	**(247,257)**	**(120,027)**	**(283,783)**
(35,836)	(33,018)	(28,461)	(22,165)	(14,129)	(6,859)	(16,216)
(11,945)	(11,006)	(9,487)	(7,388)	(4,710)	(2,286)	(5,405)
(5,973)	(5,503)	(4,743)	(3,694)	(2,355)	(1,143)	(2,703)
(11,945)	(11,006)	(9,487)	(7,388)	(4,710)	(2,286)	(5,405)
(5,973)	(5,503)	(4,743)	(3,694)	(2,355)	(1,143)	(2,703)
(2,986)	(2,751)	(2,372)	(1,847)	(1,177)	(572)	(1,351)
(74,657)	**(68,787)**	**(59,294)**	**(46,176)**	**(29,435)**	**(14,289)**	**(33,784)**
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**	**0**
(8,333)	(8,333)	(8,333)	(8,333)	(8,333)	(8,333)	(8,333)
0	0	0	0	0	0	0
0	0	0	0	0	0	0
(8,333)	**(8,333)**	**(8,333)**	**(8,333)**	**(8,333)**	**(8,333)**	**(8,333)**
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**	**0**
0	0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**	**0**
(710,113)	**(654,934)**	**(565,693)**	**(442,390)**	**(285,026)**	**(142,649)**	**(325,900)**
(58,077)	(62,558)	(66,743)	(70,433)	(73,424)	(75,515)	(76,788)
(768,190)	**(717,492)**	**(632,436)**	**(512,823)**	**(358,450)**	**(218,164)**	**(402,687)**
(19,072,085)	(19,789,577)	(20,422,013)	(20,934,836)	(21,293,286)	(21,511,450)	(21,914,137)

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GROUPED CASH FLOW LICENSED COPY

Step By Step Example

Grouped Cash Flow (Merged Phases) **Page A 4**

019:Jul 2009	020:Aug 2009	021:Sep 2009	022:Oct 2009	023:Nov 2009	024:Dec 2009	025:Jan 2010
(21,914,137)	(22,468,363)	(23,140,949)	(23,898,526)	(24,707,526)	(25,534,189)	(26,344,555)
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**	**0**
(397,239)	(495,220)	(564,213)	(604,217)	(615,232)	(597,259)	(550,298)
(19,862)	(24,761)	(28,211)	(30,211)	(30,762)	(29,863)	(27,515)
(417,101)	**(519,981)**	**(592,423)**	**(634,428)**	**(645,994)**	**(627,122)**	**(577,813)**
(23,834)	(29,713)	(33,853)	(36,253)	(36,914)	(35,836)	(33,018)
(7,945)	(9,904)	(11,284)	(12,084)	(12,305)	(11,945)	(11,006)
(3,972)	(4,952)	(5,642)	(6,042)	(6,152)	(5,973)	(5,503)
(7,945)	(9,904)	(11,284)	(12,084)	(12,305)	(11,945)	(11,006)
(3,972)	(4,952)	(5,642)	(6,042)	(6,152)	(5,973)	(5,503)
(1,986)	(2,476)	(2,821)	(3,021)	(3,076)	(2,986)	(2,751)
(49,655)	**(61,902)**	**(70,527)**	**(75,527)**	**(76,904)**	**(74,657)**	**(68,787)**
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**	**0**
(8,333)	(8,333)	(8,333)	(8,333)	(8,333)	(8,333)	(8,333)
0	0	0	0	0	0	0
0	0	0	0	0	0	0
(8,333)	**(8,333)**	**(8,333)**	**(8,333)**	**(8,333)**	**(8,333)**	**(8,333)**
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**	**0**
0	0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**	**0**
(475,089)	**(590,217)**	**(671,283)**	**(718,288)**	**(731,231)**	**(710,113)**	**(654,934)**
(79,137)	(82,370)	(86,293)	(90,712)	(95,431)	(100,254)	(104,981)
(554,226)	**(672,586)**	**(757,576)**	**(809,000)**	**(826,663)**	**(810,367)**	**(759,914)**
(22,468,363)	(23,140,949)	(23,898,526)	(24,707,526)	(25,534,189)	(26,344,555)	(27,104,470)

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Step By Step Example

Grouped Cash Flow (Merged Phases) **Page A 5**

026:Feb 2010	027:Mar 2010	028:Apr 2010	029:May 2010	030:Jun 2010	031:Jul 2010	032:Aug 2010
(27,104,470)	(27,779,576)	(28,335,318)	(28,736,937)	(29,011,207)	(29,140,077)	(29,269,698)
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**	**0**
(474,348)	(369,410)	(235,483)	0	0	0	0
(23,717)	(18,470)	(11,774)	0	0	0	0
(498,066)	**(387,880)**	**(247,257)**	**0**	**0**	**0**	**0**
(28,461)	(22,165)	(14,129)	0	0	0	0
(9,487)	(7,388)	(4,710)	0	0	0	0
(4,743)	(3,694)	(2,355)	0	0	0	0
(9,487)	(7,388)	(4,710)	0	0	0	0
(4,743)	(3,694)	(2,355)	0	0	0	0
(2,372)	(1,847)	(1,177)	0	0	0	0
(59,294)	**(46,176)**	**(29,435)**	**0**	**0**	**0**	**0**
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**	**0**
(8,333)	(8,333)	(8,333)	(8,333)	(8,333)	(8,333)	(8,333)
0	0	0	(110,250)	0	0	0
0	0	0	(36,750)	0	0	0
(8,333)	**(8,333)**	**(8,333)**	**(155,333)**	**(8,333)**	**(8,333)**	**(8,333)**
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**	**0**
0	0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**	**0**
(565,693)	**(442,390)**	**(285,026)**	**(155,333)**	**(8,333)**	**(8,333)**	**(8,333)**
(109,414)	(113,352)	(116,594)	(118,936)	(120,536)	(121,288)	(122,044)
(675,106)	**(555,742)**	**(401,620)**	**(274,270)**	**(128,870)**	**(129,621)**	**(130,377)**
(27,779,576)	(28,335,318)	(28,736,937)	(29,011,207)	(29,140,077)	(29,269,698)	(29,400,075)

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GROUPED CASH FLOW LICENSED COPY

Step By Step Example

Grouped Cash Flow (Merged Phases) **Page A 6**

033:Sep 2010 (29,400,075)	034:Oct 2010 (29,531,213)	035:Nov 2010 (29,663,116)	036:Dec 2010 (29,698,205)	037:Jan 2011 (29,822,749)	038:Feb 2011 (29,948,019)	039:Mar 2011 (29,984,770)
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**	**0**
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**	**0**
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**	**0**
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**	**0**
(8,333)	(8,333)	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
(8,333)	**(8,333)**	**0**	**0**	**0**	**0**	**0**
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**	**0**
0	0	89,250	0	0	89,250	0
0	**0**	**89,250**	**0**	**0**	**89,250**	**0**
(8,333)	**(8,333)**	**89,250**	**0**	**0**	**89,250**	**0**
(122,805)	(123,570)	(124,339)	(124,544)	(125,270)	(126,001)	(126,215)
(131,138)	**(131,903)**	**(35,089)**	**(124,544)**	**(125,270)**	**(36,751)**	**(126,215)**
(29,531,213)	(29,663,116)	(29,698,205)	(29,822,749)	(29,948,019)	(29,984,770)	(30,110,986)

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GROUPED CASH FLOW LICENSED COPY

Step By Step Example

Grouped Cash Flow (Merged Phases) **Page A 7**

040:Apr 2011	041:May 2011	042:Jun 2011	043:Jul 2011	044:Aug 2011	045:Sep 2011	046:Oct 2011
(30,110,986)	(30,237,937)	(17,580,729)	(16,575,713)	(15,564,833)	(14,548,058)	(13,525,350)
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**	**0**
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**	**0**
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**	**0**
0	(131,288)	(10,750)	(10,750)	(10,750)	(10,750)	(2,750)
0	(65,644)	(5,375)	(5,375)	(5,375)	(5,375)	(1,375)
0	**(196,932)**	**(16,125)**	**(16,125)**	**(16,125)**	**(16,125)**	**(4,125)**
0	0	0	0	0	0	0
0	(110,250)	0	0	0	0	0
0	(36,750)	0	0	0	0	0
0	**(147,000)**	**0**	**0**	**0**	**0**	**0**
0	1,075,000	1,075,000	1,075,000	1,075,000	1,075,000	275,000
0	12,790,909	0	0	0	0	0
0	(737,076)	0	0	0	0	0
0	**13,128,833**	**1,075,000**	**1,075,000**	**1,075,000**	**1,075,000**	**275,000**
0	0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**	**0**
0	**12,784,900**	**1,058,875**	**1,058,875**	**1,058,875**	**1,058,875**	**270,875**
(126,952)	(127,692)	(53,858)	(47,996)	(42,099)	(36,168)	(30,202)
(126,952)	**12,657,208**	**1,005,017**	**1,010,879**	**1,016,776**	**1,022,707**	**240,673**
(30,237,937)	(17,580,729)	(16,575,713)	(15,564,833)	(14,548,058)	(13,525,350)	(13,284,678)

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GROUPED CASH FLOW LICENSED COPY

Step By Step Example

Grouped Cash Flow (Merged Phases) **Page A 8**

047:Nov 2011	048:Dec 2011	049:Jan 2012	050:Feb 2012	051:Mar 2012	052:Apr 2012	053:May 2012
(13,284,678)	(12,953,351)	(12,709,341)	(12,463,908)	(12,127,794)	(12,149,843)	(12,172,021)
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**	**0**
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**	**0**
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**	**0**
(2,750)	(2,750)	(2,750)	(2,750)	0	0	(131,288)
(1,375)	(1,375)	(1,375)	(1,375)	0	0	(65,644)
(4,125)	**(4,125)**	**(4,125)**	**(4,125)**	**0**	**0**	**(196,932)**
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**	**0**
275,000	275,000	275,000	275,000	0	0	1,075,000
0	0	0	0	0	0	12,790,909
0	0	0	0	0	0	(737,076)
275,000	**275,000**	**275,000**	**275,000**	**0**	**0**	**13,128,833**
89,250	0	0	89,250	0	0	0
89,250	**0**	**0**	**89,250**	**0**	**0**	**0**
360,125	**270,875**	**270,875**	**360,125**	**0**	**0**	**12,931,900**
(28,798)	(26,865)	(25,442)	(24,010)	(22,050)	(22,178)	(22,308)
331,327	**244,010**	**245,433**	**336,115**	**(22,050)**	**(22,178)**	**12,909,593**
(12,953,351)	(12,709,341)	(12,463,908)	(12,127,794)	(12,149,843)	(12,172,021)	737,571

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GROUPED CASH FLOW LICENSED COPY

Step By Step Example

Grouped Cash Flow (Merged Phases) **Page A 9**

054:Jun 2012	055:Jul 2012	056:Aug 2012	057:Sep 2012	058:Oct 2012	059:Nov 2012	060:Dec 2012
737,571	1,796,446	2,855,321	3,914,196	4,973,071	5,243,946	5,514,821
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**	**0**
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**	**0**
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**	**0**
(10,750)	(10,750)	(10,750)	(10,750)	(2,750)	(2,750)	(2,750)
(5,375)	(5,375)	(5,375)	(5,375)	(1,375)	(1,375)	(1,375)
(16,125)	**(16,125)**	**(16,125)**	**(16,125)**	**(4,125)**	**(4,125)**	**(4,125)**
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**	**0**
1,075,000	1,075,000	1,075,000	1,075,000	275,000	275,000	275,000
0	0	0	0	0	0	0
0	0	0	0	0	0	0
1,075,000	**1,075,000**	**1,075,000**	**1,075,000**	**275,000**	**275,000**	**275,000**
0	0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**	**0**
1,058,875	**1,058,875**	**1,058,875**	**1,058,875**	**270,875**	**270,875**	**270,875**
0	0	0	0	0	0	0
1,058,875	**1,058,875**	**1,058,875**	**1,058,875**	**270,875**	**270,875**	**270,875**
1,796,446	2,855,321	3,914,196	4,973,071	5,243,946	5,514,821	5,785,696

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Step By Step Example

Grouped Cash Flow (Merged Phases) **Page A 10**

061:Jan 2013	062:Feb 2013
5,785,696	6,056,571
0	0
0	0
0	0
0	0
0	**0**
0	0
0	0
0	**0**
0	0
0	0
0	0
0	0
0	0
0	0
0	**0**
(2,750)	(2,750)
(1,375)	(1,375)
(4,125)	**(4,125)**
0	0
0	0
0	0
0	**0**
275,000	275,000
0	0
0	0
275,000	**275,000**
0	0
0	**0**
270,875	**270,875**
0	0
270,875	**270,875**
6,056,571	6,327,446

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CHAPTER 16

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